BRITISH DENTAL JOURNAL

VOL. XC, No. 2 JANUARY 16, 1951

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January 16, 1951

BRITISH DENTAL JOURNAL

The Journal of the British Dental Association

(Incorporating the "Mouth Mirror" and the "Dental Gazette")

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CLASSIFIED ADVERTISEMENTS

POSTGRADUATE COURSES

A COURSE of lectures and clinical demonstrations on ORAL SURGERY and PATHOLOGY commencing on March 1, 1951, and lasting four weeks will be given by Dr. F. G. Gibbs, F.R.C.P.E., F.R.C.S.E., L.D.S.E., and Dr. D. S. Middleton, F.R.C.S.E., L.D.S.E., at Surgeons' Hall, Nicolson Street, Edinburgh. Fee £10 10s. Particulars may be obtained from Dr. D. S. Middleton, 18, Nicolson Street, Edinburgh.

A POSTGRADUATE Course in PERIODONTIA will be held at the Institute of Dental Surgery (University of London), Eastman Dental Hospital, Gray's Inn Road, London, W.C.1, commencing on Monday, February 5, 1951. The duration of the course will be two weeks and the inclusive fee will be six guineas. The Course which will be full-time, will be limited to six members. For further particulars and forms of application, apply to the Dean.

PUBLIC APPOINTMENTS

THE University of Manchester. Chair of Dental Surgery. Applications are invited for the full-time PROFESSORSHIP of DENTAL SURGERY. The University is prepared to consider candidates with experience and qualifications in any branch of dentistry. Salary not less than £2,250 per annum with membership of the F.S.S.U. Duties to begin on a date to be arranged. Applications should be submitted not later than February 28, 1951, to the Registrar, the University, Manchester 13, from whom further particulars may be obtained. W. Mansfield Cooper, Registrar.

NORTHERN Ireland General Health Services Board. Northern Ireland Hospitals Authority. Joint Appointment—Dental Officer to the Board/Dental Surgeon, R.V.H., Belfast. Applications are invited for the JOINT POST of DENTAL OFFICER to the Northern Ireland General Health Services Board and PART-TIME DENTAL SURGEON at the Dental Department, Royal Victoria Hospital, Belfast. The successful candidate will, as Dental Officer, be responsible to the Board and their Dental Estimates Committee for matters relating to the organisation and operation of the dental services provided under Part II of the Health Services Act (Northern Ireland), 1948. As Dental Surgeon he will undertake two half-day sessions in each week at the Dental Department, Royal Victoria Hospital, the main teaching hospital in Northern Ireland. Applicants should be registered Dental Practitioners and have had at least ten years' experience in the practice of their profession since registration. The salary as Dental Officer will be £1,150 rising by annual increments of £50 to a maximum of £1,300 per annum. Fees as Dental Surgeon will be at the rate of not less than £295 nor more than £398 per annum as determined by the Grading Committee of the Northern Ireland Hospitals Authority. Subject to a probationary period, the appointment of Dental Officer to the Board will be permanent and pensionable. The salary will be subject to deductions under a contributory Superannuation Scheme. Preference will be given to suitably qualified candidates who served with H.M. Forces on active service. Canvassing, either directly or indirectly, will disqualify. The appointment is subject to the approval of the Ministry of Health and Local Government. Applications should state (1) date and place of birth and particulars of education and experience; (2) the names and addresses of two referees to whom application may be made for confidential testimonials; and (3) particulars of service with H.M. Forces, and should be sent in an envelope marked "Dental Officer" with copies of recent testimonials, so as to ensure delivery not later than February 7, 1951, to the Secretary, Northern Ireland General Health Services Board, 9, Upper Queen Street, Belfast.

AMENDED ADVERTISEMENT

THE Civil Service Commissioners invite applications from Registered Dentists (men or women) for permanent appointments as DENTAL OFFICER. There are eleven vacancies on the staff of the Ministry of Health and two with the Welsh Board of Health. Inclusive salary scale in London £1,100 x £35—£1,275 x £50—£1,500 per annum, rather less in Wales and the provinces. The minimum of the scale will be linked to the age of 35 years with deductions of £35 for each year below that age and additions of one increment for each year above that age up to the age of 37 years. Most of the vacancies will be outside London, including the two in Wales. Candidates must have had not less than ten years' experience in the practice of dentistry, either in private practice or in some branch of Public Dental Service. For the posts in Wales a knowledge of the Welsh language is very desirable. Further particulars and forms of application may be obtained from the Secretary, Civil Service Commission, Burlington Gardens, London, W.1, quoting No. 3397. Completed application forms must reach him by January 25, 1951.

UNITED Bristol Hospitals. South Western Regional Hospital Board. Applications are invited from Registered Dental Practitioners for the following appointments as CONSULTANT DENTAL SURGEON: (1) Under the United Bristol Hospitals. One Out-patient Session weekly in the University of Bristol Dental Hospital to which patients will be referred from the Plastic Unit at Frenchay Hospital. The duties will not exceed 3½ hours per week and are estimated to amount for salary purposes to one notional half day. (2) Under the Regional Hospital Board. One Operating Session per week for Oral Surgery in the Plastic Unit at Frenchay Hospital. It is estimated that the duties together with occasional calls for emergency surgery will amount to 3½ hours per week and will be remunerated as one notional half day. Applications stating full christian names, age and particulars of education, qualifications and experience, and accompanied by two recent testimonials and the names of two referees, should be sent to the undersigned, from whom further particulars can be obtained not later than Monday, February 12, 1951. Stephen C. Merivale, Secretary to the Board of Governors, Bristol Royal Infirmary, Bristol, 2.

THE HOSPITAL for Sick Children, Great Ormond Street, London, W.C.1. There will be a vacancy on April 14, 1951, for a DENTAL HOUSE SURGEON. The post, which is tenable for six months, is graded as that of a Senior House Officer in accordance with the Terms and Conditions of Service of Hospital Medical and Dental Staff (England and Wales) the salary being at the rate of £670 per annum. The post is recognised for the Fellowship in Dental Surgery of the Royal College of Surgeons. Further particulars and form of application, which must be returned not later than March 5, 1951, are obtainable from the undersigned. H. F. Rutherford, House Governor and Secretary.

GREENWICH and Deptford Hospital Management Committee. LOCUM CONSULTANT or SENIOR HOSPITAL DENTAL OFFICER required at St. Alfege's Hospital for 5 sessions weekly for approximately three weeks from February 19, 1951. Apply with details of experience to Secretary, G. & D./H.M.C., St. Alfege's Hospital, Greenwich, S.E.10.

DENTAL House Officer required at Edgware General (formerly Redhill County) Hospital, Edgware, Middlesex. Post vacant February 5. Applicants should have registered dental qualifications. Salary £350—£450 p.a. according to experience. Non-resident post. Six months' appointment. Post approved for the Dental Fellowship (Eng. and Edin.). Applications stating age, qualifications, experience and enclosing copies of up to 3 recent testimonials, to Medical Director of Hospital.

SURREY County Council. Dental Surgeons. Applications are invited for permanent appointment of DENTAL SURGEONS. The main duties will be in the school and maternity and child welfare services. Salary scale—£750 x £50—£1,250 per annum, inclusive. Successful candidates will be placed at a point on the scale according to experience. Travelling expenses in accordance with the Council's scale will be allowed. The posts are subject to the Local Government Superannuation Act, 1937, to the successful candidate passing a medical examination, and to the staffing regulations of the Council which provide, *inter alia*, that the appointment may be determined by three months' notice. Application forms and further particulars may be obtained from the County Medical Officer, County Hall, Kingston-on-Thames, and these should be returned with copies of testimonials. Candidates should note that the Council can give no assistance in finding housing accommodation. T. W. W. Gooderidge, Deputy Clerk of the Council. January 3, 1951.

COUNTY Borough of East Ham. Appointment of ASSISTANT DENTAL OFFICER. Applications are invited from fully qualified and registered Dental Surgeons for the above appointment at a salary of £835 x £25—£1,000 per annum. A commencing salary above the minimum may be paid according to experience and length of service. Further particulars of the duties, terms and conditions of appointment and form of application (which must be returned by January 29, 1951) may be obtained from the undersigned. Canvassing will disqualify. H. A. Edwards, Town Clerk, Town Hall, East Ham, E.6. January, 1951.

CHESHIRE Education Committee. School Dental Service. Applications are invited for the post as SCHOOL DENTAL SURGEON at Bebington. Salary up to five years' experience £735 by £25 to £960, between five and ten years' experience £835 to £1,060, with ten years' experience £935 to £1,160. Motor allowance on the County scale and expenses. Applications, stating age, qualifications and previous experience, should be sent to the undersigned by January 24, 1951. Arnold Brown, County Medical Officer, 24, Nicholas Street, Chester.

COUNTY Borough of Bournemouth. Applications are invited from registered Dental Surgeons (male or female) for the appointment of an ASSISTANT WHOLE-TIME DENTAL OFFICER at a salary of £735 per annum, rising by annual increments of £25 to £835, but previous experience may be taken into account in fixing the commencing salary. The duties will be concerned mainly with the inspection and treatment of school children and mothers and young children. The appointment is subject to the provisions of the National Health Service (Super-

annuation) Scheme, 1947, and the successful candidate will be required to pass a medical examination. Forms of application may be obtained from the Medical Officer of Health, 17, St. Stephens Road, Bournemouth, to whom they should be submitted with copies of two recent testimonials by January 29, 1951. Canvassing, either directly or indirectly is strictly prohibited, and will disqualify. A. Lindsay Clegg, Town Clerk, Town Hall, Bournemouth. January, 1951.

BERKSHIRE Education Committee. Assistant School Dental Officers. Applications are invited from registered Dental Surgeons for posts as ASSISTANT SCHOOL DENTAL OFFICERS. The persons appointed will be required to devote their whole time to the duties and to act under the direction of the School Medical Officer and the Senior School Dental Officer. The salary scale is £717 10s., rising by annual increments of £25, plus one final increment of £15, to £882 10s., and the appointments will be subject to the provisions of the Local Government Superannuation Act, 1937. Further particulars and forms of application may be obtained from the School Medical Officer, 11, Abbot's Walk, Reading, and should be returned to him within 14 days of the appearance of this notice, together with copies of their recent testimonials. Applicants must disclose in their applications whether, to their knowledge, they are related to any member of or holder of any senior office under the Council. Canvassing, either directly or indirectly, will be a disqualification. N. J. C. Neobard, Clerk of the County Council, Shire Hall, Reading.

TYRONE County Health Committee. Appointment of two Assistant Dental Officers. The Tyrone County Health Committee invites applications for the appointment of two ASSISTANT DENTAL OFFICERS. Applicants must hold a registrable qualification in Dentistry and must be prepared to undertake such work in Dental Centres, Schools and Clinics in County Tyrone as may be assigned. Salary shall be within the range £700 x £40—£1,020 x £30—£1,050 inclusive, plus travelling expenses on the approved scale. The appointment will be subject to the terms of the Local Government Superannuation Act (Northern Ireland) 1950, which ensures the reckoning of Local Government Service in Great Britain for pension purposes. Other things being equal, preference will be given to ex-Service candidates. Canvassing in any form will be a disqualification. Applications on the prescribed form, which may be obtained on request, together with two recent testimonials and birth certificate, should be lodged with the undersigned not later than 12 noon on February 9, 1951. Robert Parke, Secretary, County Health Office, Omagh, Co. Tyrone. January 6, 1951.

SALISBURY Group Hospital Management Committee. Applications are invited for the post of DENTAL TECHNICIAN at the Plastic and Oral Surgery Centre, Odstock Hospital, Salisbury, for training in Maxillo-Facial work. Salary in accordance with the Whitley Council scale, i.e., £340 to £420 per annum, with good prospects of promotion to the grade of Senior Technician (Surgical) at a salary of £420 to £540 per annum. Applications, stating age, experience, together with the names of two referees should be sent to the Secretary, Salisbury Group Hospital Management Committee, Odstock Hospital, Salisbury, to be received within 10 days of the appearance of this advertisement.

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APPOINTMENTS

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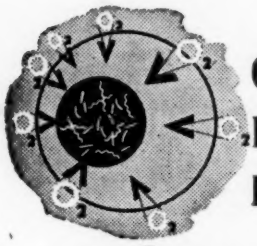

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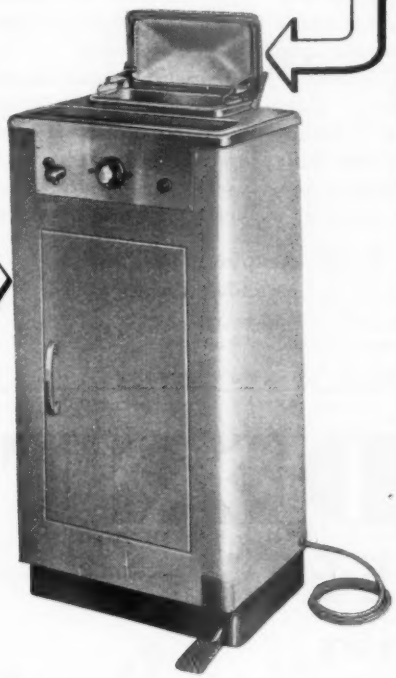

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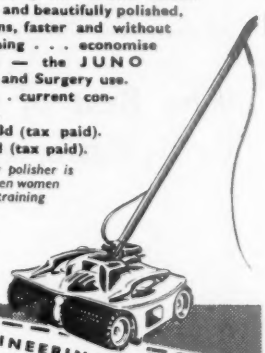

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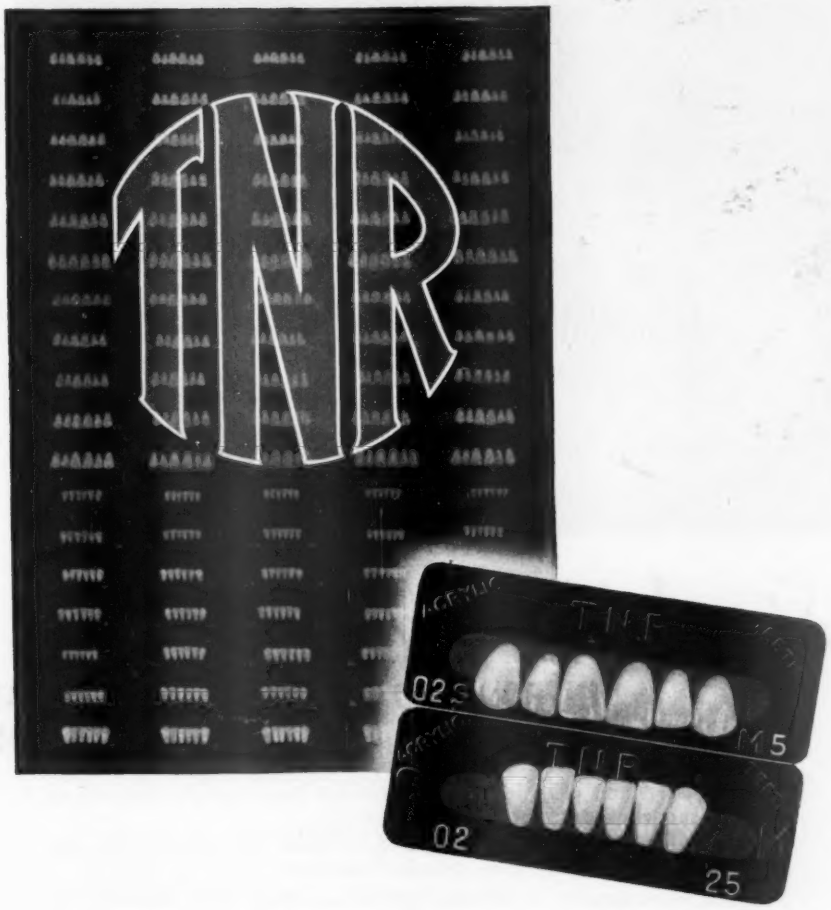

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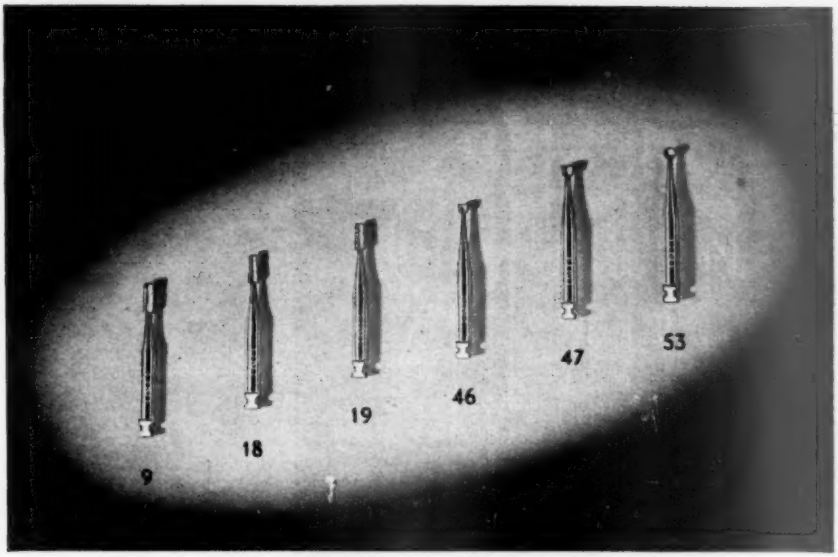

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BRITISH DENTAL JOURNAL

The Journal of the British Dental Association

VOL. XC JANUARY 16, 1951 No. 2

ORIGINAL COMMUNICATIONS

DENTAL DISEASE IN PARTS OF TRINIDAD AND BRITISH GUIANA (March–April, 1948)

By J. D. KING, Ph.D., D.Sc., F.D.S. R.C.S., and W. J. MARTIN, Ph.D., D.Sc.

PART I

Introduction

During the past twenty-five years animal experiments and clinical investigations have clearly demonstrated that gingival health is governed by systemic as well as local agencies. The former include deficiencies of vitamins A, B_2 complex and C, the latter include dental calculus and food debris retained about the teeth. It is to be noted, however, that belief in the importance of local factors confined to the mouth was, until very recently, based on clinical experience rather than experimental study so that their significance and mode of operation was little understood. Burwasser and Hill (1939) then noted that 4 dogs fed on hard dog biscuits had better parodontal health than 2 control animals given the same biscuits but powdered and mixed with water to form a mash. On a much larger scale were the investigations of King (1944,1945*b*) and King and Glover (1945) concerning more than 200 ferrets. It was observed that these animals were highly susceptible to a form of parodontal disease identical with the common non-ulcerative gingivitis in man. The lesions were due to injury of the gum by dental deposits of salivary calculus and were little affected by nutritional factors. Prevention and cure of the disease were accomplished by including in the diet short lengths of bone with small amounts of muscle, tendon and periosteum left *in situ*. The latter attachments fed separately had no prophylactic or curative value and their importance lay in providing the main inducement to gnawing of the bone by the animals. The tartar-preventing action of bone gnawing was largely due to the mechanical friction of the hard dietary bone against the tooth surfaces, and its curative effect on established parodontal lesions to removal of calculus, necrotic gingivæ and other debris by similar frictional action. More recently the effects of both salivary calculus and food debris have also been demonstrated in the molar regions of the golden hamster (King and Gimson, 1948–49 ; King, 1949, 1950).

When the account of the 1945 ferret experiments was awaiting publication, Professor B. S. Platt returned to London from Jamaica to report on a rapid nutritional survey he had made there. Among other things Platt told Sir Edward Mellanby and one of us (J. D. K.) of the healthy gingival conditions he had seen among some of the island natives and which he believed might be related to the vitamin C content of their diet. He also commented on the habitual consumption of raw sugar cane and, with the ferret studies in mind, Sir Edward then suggested that the apparently good gingival health of the cane-eating Jamaican might rather be due to the same mechanical action operative in the prevention and cure of the ferret disease by bone. The effects of sugar-cane gnawing on gingival disease were then studied in one group of 9 adults and two groups of institutional boys (30 given cane, 12 controls) over periods of seven to eight weeks ; the adults and the first group of 19 boys were given short lengths of longitudinally split raw cane, the second group of 11 boys received similar lengths of cane preserved by canning and their teeth were scaled prior to the test period. In both studies cane-gnawing resulted in rapid cessation of bleeding of the more severely diseased anterior gingivæ and marked improvement of dental and interdental hygiene in these areas, but the raw cane was more effective than the canned product ; other signs of resolution included clinical recovery of normal colour, contour and texture of the gum surface, and defensive subsurface reactions demonstrable by capillary microscopy *in vivo* and by biopsy histology (King 1947*a*, *b*, *c*,).

On the other hand the degree of response to cane therapy was largely dependent on the extent to which the cane was able to dislodge dental calculus and counteract any other sources of irritation. Moreover, resolution of any degree was limited to the labial anterior gum ; all aspects of the posterior gingival and lingual and palatal aspects of the anterior regions were little influenced by cane gnawing, these areas being inaccessible to the friction by which the cane was believed to exert its beneficial affects. Nevertheless, in a further series of 20 adults treated in the parodontal clinic at King's College Hospital, the use of sugar cane for anterior gingivitis following routine hygienic or surgical procedures appeared to be of greater value than the much advocated wood-point therapy over periods of up to three months (King, 1947*d*).

The foregoing observations on the benefits and limitations of cane-gnawing on gingival disease in small test groups, together with the many conflicting reports on the prevalence or otherwise of such a habit among certain natives and its influence or lack of influence on their gingival health (e.g. Rohan, 1947 ; Osman, 1947 ; Barker, 1947) were largely responsible for the present survey, the main object of which was to settle these issues. Sir John Simonsen, Director of the Colonial Products Research Council, was approached and Trinidad was primarily selected as a suitable region since the co-operation of Dr. A. C. Thaysen, Director of the Colonial Microbiological Research Institute, Port of Spain, had already been gained in regard to the preservation of sugar-cane stalks for gingival prophylaxis and therapy. Moreover, our secondary interest in the possible effects of vitamin B_2 deficiencies on gingival health (King, 1940*b*, 1943) was aroused by their reported prevalence in British Guiana (Platt, 1946 ; Waterlow, 1945) and a brief visit to this colony was therefore arranged. Finally, since the survey data might form a useful basis for comparison with later field studies in the West Indies and elsewhere, determination of the incidence and extent of dental caries and M-hypoplasia was also included.

Clinical Material and Methods

Trinidad.—After discussions with the late Dr. E. Sankeralli, Director of Medical Services, Dr. H. McLean, Senior Dental Officer, other Public Health Officials, and Dr. A. C. Thaysen, it was decided to limit the main survey to native school-children of 12–14 years from both East Indian and Negro stock. Three principal areas were selected to cover urban, rural non-cane, and rural cane communities in each of which an attempt was made to include fairly comparable samples of the two races and sexes. The urban children were drawn from primary schools representing the poorer and better class districts of Port of Spain. The rural non-cane subjects were representative of two areas—Arima, a coconut and citrus fruit district some 16 miles due east of Port of Spain, and Cedros, a fish and coconut coastal area in the south-western extremity of the island about 80 miles south of the capital. For the two rural cane groups, Couva, in the Caroni sugar estates 28 miles south of Port of Spain, and Williams Ville (Usine St. Madeleine), near a sugar factory due east of San Fernando and about 43 miles south-east of Port of Spain, were chosen. The various groups and subgroups, with their respective populations, are shown in the accompanying tables. In addition, some 70 adults of both races and sexes were examined in Port of Spain, Arima and Couva, but their number is too small and their age variation too great to warrant their consideration here. In all, some five weeks were spent on the Trinidad survey.

British Guiana.—On the advice of Dr. W. H. Eddey, Director of Medical Services, and Dr. Nicholson, School Medical Officer, the short visit of five days was spent in examining children of 12–14 years from country districts of the more populated coastal areas. The non-cane communities were represented by two villages in West Berbice some 60 miles south-east of Georgetown, where rice cultivation, cattle rearing and fishing were the chief occupations. The cane groups were drawn from East and West Coast Demerara, some 9–12 miles from Georgetown, and from the East Bank of the Demerara River 10 miles inland from the capital. As in Trinidad, fairly comparable numbers of the two races and sexes were sought, and details of the various groupings are given in the accompanying tables. No adult was examined.

The same diagnostic criteria were employed in each colony. Gingival conditions and calculus deposits were recorded according to the standards developed from previous surveys (King, 1945a), and were largely confined to the eight incisor and four canine regions of the denture. It is our experience, in accord with the opinion of Schour and Massler (1947) but in contrast to that of Day and Shourie (1950), that *detailed* determination of gingival changes is only possible in the anterior part of the mouth under the usual conditions of field studies and that, in any case, such data provide sufficiently good bases for group rather than individual comparisons in respect of gingivitis and dental calculus. Diagnosis of dental caries was identical with that used by King (1940*a*) ; M-hypoplasia[1] was assessed according to the method developed by M. Mellanby (1923, 1927 1934). In the case of caries every tooth in the mouth was examined, but for M-hypoplasia only the first and, in some cases, the second permanent molars were tested. The extent as well as the incidence of gingival disease, calculus deposition, dental caries and M-hypoplasia was recorded in all cases and expressed in the findings as " average figures "

[1]The term M-hypoplasia was coined by King (1940*a*) to distinguish between the two main types of structural enamel defects. The first group (" Mellanby " or M-type hypoplasia), commonly associated with caries, comprises all those defects of the enamel not easily visible to the naked eye but readily detected by passing a probe over the surfaces of the teeth. The second group (" gross " or G-type hypoplasia) bearing no known relationship to caries, includes gross deficiencies of enamel substance in the form of pits, grooves, etc., and actual absence of the enamel in some areas, all of which are visible even on more or less superficial examination.

for the various groups and subgroups. Such figures were obtained by dividing the " total figures " for any one condition for all the regions or teeth examined by the number of those regions or teeth present (for details *see* King, 1940*a* ; 1945). Additional data collected included the incidence of anterior gingival hæmorrhage elicited by firm digital pressure, of mouth breathing and related tonsillar enlargement, and of clinical signs of vitamin B_2 deficiencies according to the criteria developed by Platt (1945, 1946, 1947) and variations of gingival contour, colour and texture in health and disease. Neither time nor opportunity was available for obtaining detailed dietary information. Under Professor Platt's general supervision, Dr. Stella Abidh and Miss Betty Campbell were completing a large-scale clinical and dietary survey in Trinidad at the time of our visit but their results have not yet become available. Dr. Nicholson obtained some details of the occupations and staple foodstuffs of the British Guiana communities from which the children we examined were drawn but, with this exception, our only source of dietary information is the report of Platt (1946).

Results

The examination findings relating to the 506 West Indies children may be considered under two main headings: (1) parodontal disease, including gingival disease, calculus deposition and other related oral conditions; and (2) dental caries and hypoplasia. In both instances the West Indies results are compared with one of the writers' previous surveys elsewhere.

(1) *Parodontal Disease in Children of* 12–14 *Years*

As already pointed out, the parodontal data were concerned only with the incisor and canine regions of each jaw. Freedom from anterior gingival lesions and calculus and the regional incidence of these conditions gave a reasonable indication of the findings but the extent of lesions was better expressed as average disease and average calculus figures respectively. With the exception of the lesions encountered in two of the British Guiana children, all of the gingival disease observed was of the non-ulcerative type (King, 1945*a*).

Freedom from Gingival Disease (*Mouths*).—Table I

TABLE I.—FREEDOM FROM GINGIVAL DISEASE AND CALCULUS DEPOSITS (ANTERIOR REGIONS OF MOUTHS ONLY) IN CHILDREN OF 12–14 YEARS

District and race	*Total children examined*	*Children free from gingival disease (per cent)*	*Children free from calculus (per cent)*
A.—*Trinidad :*			
Port of Spain—Urban—			
Medium class—East Indian	40	5·0	5·0
Negro	25	16·0	28·0
Poorer class—East Indian	45	8·9	8·9
Negro	50	8·0	8·0
Orphanage—East Indian	4	Nil	50·0
Negro	22	27·3	27·3
Total	186	10·8	13·4
Non-cane Districts—Rural—			
Arima—East Indian	27	22·2	18·5
Negro	53	26·4	32·1
Cedros—East Indian	28	7·1	Nil
Negro	12	8·3	16·7
Total	120	19·2	20·0
Cane Districts—Rural—			
Couva, Caroni—East Indian	58	31·0	17·1
Negro	22	18·2	27·3
Williams Ville (Usine, St. Madeleine)—East Indian	20	20·0	10·0
Total	100	26·0	18·0
B.—*British Guiana :*			
Non-cane Districts—Rural—			
West Berbice—East Indian	20	15·0	10·0
Negro	20	10·0	5·0
Total	40	12·5	7·5
Cane Districts—Rural—			
East Bank, Demerara—East Indian	14	Nil	7·1
Negro	16	6·3	6·3
East and West Coast, Demerara—East Indian	15	26·7	6·7
Negro	15	—	Nil
Total	60	8·3	5·0
C.—*Dundee, Scotland* (1944)—*Urban—*			
Medium class—White	103	10·7	—
Poorer class—White	80	7·5	—
Total	183	9·3	—

shows the proportion of children with no signs of gum lesions in the anterior part of the denture according to the strict examination criteria employed. While the subdivisions are generally too small for separate comparison, it is seen that only 10·8 per cent of the Port of Spain (Trinidad urban) children were free from gingival defects of some degree; the respective percentages for the non-cane and cane rural districts were 19·2 and 26·0 in Trinidad, and 12·5 and 8·3 in British Guiana. Excluding the orphanage, in Port of Spain schools 9·2 per cent of the medium class and 8·4 per cent of the poorer class had no lesions; in the Dundee, Scotland (1944), survey the corresponding figures were 10·7 and 7·5 respectively. In the country areas of Trinidad with the exception of Cedros, from 18 to 31 per cent of children were unaffected by the disease; apart from one small group of East Indians, the comparable British Guiana percentages ranged from 0 to 15. There was little or no racial difference between freedom from disease in Trinidad East Indians (16·2 per cent) and Negroes (17·9 per cent) but in British Guiana the East Indians (14·3 per cent) were slightly, but not significantly, better than the Negroes (5·9 per cent).

Freedom from Calculus (Mouths).—In general there was a tendency for absence of anterior calculus to parallel freedom from gum disease, but in some groups there were more and in others fewer mouths free of tartar than of gum lesions. As regards racial differences, in Trinidad only 11·3 per cent of East Indians had no detectable anterior calculus, compared with 22·8 per cent of Negroes, a statistically significant difference; in the smaller number of British Guiana children the findings were reversed, the respective figures being 8·2 and 3·9, but this difference is not significant.

The majority of the subjects in both Trinidad and British Guiana showed *no hæmorrhage* on heavy digital pressure of the anterior gingivæ. The percentages of children exhibiting no bleeding under such conditions were: Port of Spain, 91·9; Trinidad non-cane rural districts, 85·0; Trinidad cane districts, 86·0; British Guiana non-cane districts, 90·0; and British Guiana cane districts 81·7. There was no significant difference between East Indians and Negroes of either colony. Such general findings were closely similar to those of the Dundee survey, in which freedom from anterior gingival hæmorrhage was noted in more than 89 per cent of urban elementary school children.

Incidence and Extent of Gingival Lesions and Calculus Deposits (Regions, Table II).—For the main groups in Trinidad the incidence and extent of gum disease in

TABLE II.—REGIONAL INCIDENCE AND EXTENT OF GINGIVAL DISEASE AND CALCULUS DEPOSITION IN CHILDREN OF 12–14 YEARS (INCISOR AND CANINE AREAS ONLY)

	Upper jaw Gum regions				*Lower jaw*						*Both jaws Gum regions diseased*	
		Diseased			*Gum regions*	*Diseased*			*Teeth with calculus*			
District, Race and Sex	*No. exam.*	*No.*	*Per cent*	*Av. fig.*	*No. exam.*	*No.*	*Per cent*	*Av. fig.*	*No.*	*Per cent*	*Per cent*	*Av. fig.*
A.—*Trinidad*:												
Port of Spain—Urban—												
Medium class—East Indian—boys	142	111	78·2	1·24	147	133	90·5	1·76	123	83·5	84·5	1·50
girls	88	41	46·5	0·78	89	79	88·8	1·58	81	91·0	68·0	1·18
Negro—boys	148	85	57·4	0·80	146	102	69·9	1·22	100	68·5	63·6	1·08
Total	378	237	62·7	0·96	382	314	82·2	1·53	304	79·6	72·7	1·25
Poorer class—East Indian—boys	147	83	56·5	0·73	148	126	85·1	1·58	112	75·5	70·8	1·14
girls	116	73	62·9	0·72	120	110	91·7	1·52	103	85·5	77·5	1·12
Negro—boys	148	116	78·4	1·08	146	137	93·8	1·67	127	87·0	86·1	1·37
girls	148	82	55·4	0·62	150	124	82·7	1·25	100	66·6	69·1	0·93
Total	559	354	63·3	0·79	564	497	88·1	1·51	442	78·4	75·8	1·15
Orphanage—East Indian—boys	20	4	20·0	0·25	22	9	40·9	0·41	5	22·8	31·0	0·33
Negro—boys	127	34	26·8	0·31	130	67	51·5	0·75	65	50·0	39·3	0·53
Total	147	38	25·9	0·30	152	76	50·0	0·70	70	46·0	38·1	0·50
Port of Spain, all subjects	1,084	629	58·0	0·78	1,098	887	80·8	1·40	816	74·5	69·4	1·09
Non-cane Districts—Rural—												
Arima—East Indian—boys	75	50	66·7	0·89	82	68	82·9	1·38	61	74·5	75·2	1·15
girls	78	32	41·0	0·59	78	37	47·4	0·82	36	46·0	44·2	0·70
Negro—boys	144	86	59·7	0·85	150	96	64·0	1·02	76	50·7	61·9	0·94
girls	160	57	35·6	0·46	160	88	55·0	0·84	89	55·5	45·3	0·65
Total	457	225	49·3	0·68	470	289	61·5	0·99	262	55·7	55·4	0·84

Cedros—East Indian—boys	99	55	55·6	0·84	102	71	69·6	1·15	77	75·5	1·17	62·7	1·00
girls	66	44	66·7	1·05	66	59	89·4	1·35	61	92·0	1·42	78·0	1·20
Negro—boys	47	28	59·6	0·94	48	39	81·3	1·19	36	75·0	1·02	70·5	1·06
girls...	24	18	75·0	1·13	24	16	66·6	1·17	16	66·6	1·17	70·8	1·14
Total	236	145	61·4	0·95	240	185	77·1	1·21	190	79·0	1·21	70·2	1·08
Non-cane districts, all subjects	693	370	53·4	0·77	710	474	66·8	1·07	452	63·7	0·90	60·2	0·92
Cane Districts—Rural—													
Couva, Caroni—East Indian—boys ...	221	95	43·0	0·61	227	144	63·5	1·08	163	71·6	1·19	53·3	0·85
girls	118	46	39·0	0·45	120	55	45·8	0·58	70	58·3	0·93	42·4	0·52
Negro—boys ...	65	31	47·7	0·79	66	44	66·6	1·10	43	65·0	0·97	57·3	0·95
girls ...	66	32	48·5	0·67	66	42	63·6	0·91	46	69·5	0·76	56·1	0·79
Total	470	204	43·5	0·60	479	285	59·4	0·93	322	67·2	1·04	51·5	0·77
Williams Ville (Usine, St. Madeleine)—													
East Indian—boys	107	51	47·6	0·66	120	80	66·6	0·97	90	75·0	1·24	57·7	0·82
Cane Districts, all subjects	577	255	44·2	0·61	599	365	60·9	0·94	412	68·8	1·08	52·7	0·78
TRINIDAD, TOTAL SUBJECTS ...	2,354	1,254	53·3	0·74	2,407	1,726	71·7	1·15	1,680	69·8	1·03	62·6	0·95
B.—*British Guiana—Rural—*													
Non-cane Districts—													
West Berbice—East Indian—boys ...	57	42	73·7	1·32	60	42	70·0	1·32	48	80·0	1·50	71·8	1·32
girls ...	60	50	83·3	1·20	60	54	90·0	1·50	43	71·7	0·85	86·6	1·35
Negro—boys ...	52	37	71·2	1·50	54	46	85·2	1·69	48	89·0	1·26	78·3	1·59
girls	60	44	73·3	1·33	60	54	90·0	2·07	51	85·0	1·30	81·7	1·70
Total	229	173	75·5	1·33	234	196	83·8	1·64	190	81·0	1·22	79·7	1·50
Cane Districts—													
East Bank, Demerara—													
East Indian—boys ...	80	71	88·8	1·53	84	74	88·1	1·78	74	88·0	1·44	88·4	1·66
Negro—boys ...	94	73	77·7	1·19	89	72	80·9	1·20	75	84·0	1·38	79·2	1·20
Total	174	144	82·8	1·35	173	146	84·4	1·49	149	86·0	1·41	83·6	1·42
East and West Coast, Demerara—													
East Indian—boys	85	31	36·4	0·50	92	59	64·1	0·98	70	76·0	0·98	50·8	0·75
Negro—boys	66	44	66·6	0·90	72	67	93·1	1·65	65	90·0	1·46	80·4	1·28
girls...	17	10	59·0	0·77	18	16	88·9	1·11	15	83·0	0·83	74·3	0·94
Total	168	85	50·5	0·68	182	142	78·0	1·26	150	82·5	1·16	64·9	0·98
Cane Districts, all subjects	342	229	67·0	1·02	355	288	81·1	1·37	299	84·2	1·28	74·2	1·20
BRITISH GUIANA, TOTAL SUBJECTS	571	402	70·0	1·14	589	484	82·2	1·48	489	83·0	1·26	76·4	1·30
C.—*Dundee* (1944) *Urban—*													
Medium class—boys	160	—	—	1·18	164	—	—	1·13	—	—	—	64·8	1·15
girls	238	—	—	1·19	228	—	—	1·03	—	—	—	71·2	1·11
Poorer class—boys	160	—	—	1·54	160	—	—	1·46	—	41·9	—	84·1	1·50
girls	162	—	—	1·57	157	—	—	1·31	—	24·2	—	91·2	1·44

both jaws together were significantly worse among the children from the urban area of the Port of Spain than among the children in the two rural areas. The cane districts had a significantly smaller amount of gum disease than the non-cane districts. The values were:

Trinidad	*Gum disease* *Incidence* (*per cent*)	*Extent*
Port of Spain, urban area	69·5 ± 1·0	1·09 ± 0·019
Non-cane, rural area	60·2 ± 1·3	0·92 ± 0·023
Cane, rural area	52·7 ± 1·5	0·78 ± 0·026
Differences :		
Urban—non-cane rural	9·3 ± 1·6	0·17 ± 0·03
Urban—cane rural	16·8 ± 1·8	0·31 ± 0·03
Non-cane—cane rural	7·5 ± 2·0	0·14 ± 0·03

In British Guiana the incidence and extent of gum disease in both jaws together was significantly lower in the cane areas than in the non-cane districts.

British Guiana	*Gum disease* *Incidence* (*per cent*)	*Extent*
Non-cane areas	79·7 ± 1·9	1·50 ± 0·057
Cane areas	74·2 ± 1·7	1·20 ± 0·041
Difference	5·5 ± 2·5	0·30 ± 0·07

The above figures show that gingival disease was generally more frequent and more extensive in British Guiana than in Trinidad children. These data indicated that the gingival state of the Trinidad urban and non-cane rural children differed little from that of the Dundee (1944) medium class primary school children, while the gingivæ examined in British Guiana showed lesions nearly as frequent and severe as those in the Dundee poorer class children.

Further dissection of the West Indies data may be made by considering the *two jaws separately*, when comparisons of the main and subsidiary groups and of the

two sexes and races, in respect of both gum disease and calculus deposition, may be summarised as follows:

(i) Trinidad, Port of Spain (Urban): For the *upper* jaw there was little or no difference in the incidence of gum disease between the medium and poorer class schools but the orphanage had a much lower rate than either of the other two groups. The extent of gingival disease, expressed as the average disease figure, was significantly larger in the medium schools than in the poorer schools but different groups within these categories did not always follow the same trend. The orphanage children had much less extensive lesions than either of the other two groups. The average values were :

	Gum disease	
	Incidence (*per cent*)	*Extent*
Medium schools	62·7 ± 2·5	0·96 ± 0·046
Poorer schools	63·3 ± 2·0	0·79 ± 0·029
Orphanage	25·9 ± 3·6	0·31 ± 0·046
Differences :		
Medium—poorer schools	−0·6 ± 3·2	0·17 ± 0·054
Medium—orphanage	36·8 ± 4·3	0·65 ± 0·065
Poorer—orphanage	37·4 ± 4·1	0·48 ± 0·054

For the *lower* jaw the medium class of school had a significantly lower incidence of gum disease than the poorer schools but the extent of gum disease did not differ between these two classes of children. Again the gingival lesions were less prevalent and less extensive in the orphanage than in the other two groups of children.

	Gum disease	
	Incidence (*per cent*)	*Extent*
Medium schools	82·2 ± 2·0	1·53 ± 0·047
Poorer schools	88·1 ± 1·4	1·51 ± 0·035
Orphanage	50·0 ± 4·1	0·70 ± 0·064
Differences :		
Medium—poorer	−5·9 ± 2·4	0·02 ± 0·06
Medium—orphanage	32·2 ± 4·6	0·83 ± 0·08
Poorer—orphanage	38·1 ± 4·3	0·81 ± 0·07

Mandibular calculus deposits around the incisor and canine teeth for the three groups showed a similar trend to that for gum disease. There was no difference between the medium class and poorer class of school but the children in the orphanage had a significantly smaller incidence and lesser extent of calculus than the other two groups of children.

	Calculus	
	Incidence (*per cent*)	*Extent*
Medium schools	79·6 ± 2·1	1·21 ± 0·04
Poorer class schools	78·4 ± 3·0	1·15 ± 0·04
Orphanage	46·1 ± 4·0	0·60 ± 0·06
Differences :		
Medium—poorer	1·2 ± 3·7	0·06 ± 0·06
Medium—orphanage	33·5 ± 4·4	0·61 ± 0·07
Poorer—orphanage	32·3 ± 5·0	0·55 ± 0·07

(ii) Trinidad, Non-cane Districts (Rural): For both the upper and lower jaw the incidence and extent of gum disease was greater in Cedros than in Arima. Mandibular calculus deposits were also more extensive in Cedros than in Arima.

Upper Jaw :	*Incidence*	
Gum disease—	(*per cent*)	*Extent*
Cedros	61·4 ± 3·2	0·95 ± 0·06
Arima	49·2 ± 2·3	0·68 ± 0·04
Difference	12·2 ± 3·9	0·27 ± 0·07
Lower Jaw :	*Incidence*	
Gum disease—	(*per cent*)	*Extent*
Cedros	77·1 ± 2·7	1·21 ± 0·06
Arima	61·5 ± 2·2	0·99 ± 0·04
Difference	15·6 ± 3·5	0·22 ± 0·07
Calculus—		
Cedros	79·2 ± 2·6	1·21 ± 0·09
Arima	55·7 ± 2·3	0·74 ± 0·04
Difference	23·5 ± 3·5	0·47 ± 0·10

(iii) Trinidad, Cane Districts (Rural): Both the incidence and extent of gum lesions in the *upper* jaw were larger but not significantly higher in Williams Ville than in Couva. In the *lower* jaw gingival disease showed the same trend as for the upper jaw. Calculus deposits were more numerous in Williams Ville than in Couva; the incidence was not significantly different between the two areas but the extent of the disease was significantly different.

Upper Jaw :	*Incidence*	
Gum disease—	(*per cent*)	*Extent*
Williams Ville	47·7 ± 4·8	0·65 ± 0·08
Couva	43·4 ± 2·3	0·60 ± 0·04
Difference	4·3 ± 5·4	0·05 ± 0·09
Lower Jaw :		
Gum disease—		
Williams Ville	66·7 ± 4·3	0·98 ± 0·08
Couva	59·5 ± 2·2	0·94 ± 0·04
Difference	7·2 ± 4·9	0·04 ± 0·08
Calculus—		
Williams Ville	75·0 ± 4·0	1·24 ± 0·08
Couva	67·2 ± 2·2	1·04 ± 0·04
Difference	7·8 ± 4·5	0·20 ± 0·09

(iv) British Guiana, Cane Districts (Rural): Both the incidence and extent of gum disease in the *upper* jaw were significantly greater in East Bank Demerara than in East and West Coast children. In the *lower* jaw the differences were not so great and the incidence of gum disease did not differ significantly between the two areas but the extent of disease was significantly greater in the East Bank Demerara than in the East and West Coast children. Calculus deposits differed little in incidence between the two groups but were significantly more extensive in the East Bank Demerara than in the East and West Coast children.

Upper Jaw :	*Incidence*	
Gum disease—	(*per cent*)	*Extent*
East Bank Demerara	82·8 ± 2·9	1·35 ± 0·09
E. and W. Coast Demerara ...	50·6 ± 3·9	0·68 ± 0·06
Difference	32·2 ± 4·8	0·67 ± 0·11
Lower Jaw :		
Gum disease—		
East Bank Demerara	84·4 ± 2·8	1·49 ± 0·07
E. and W. Coast Demerara ...	78·0 ± 3·1	1·26 ± 0·06
Difference	6·4 ± 4·1	0·23 ± 0·10
Calculus—		
East Bank Demerara	86·1 ± 2·6	1·41 ± 0·07
E. and W. Coast Demerara ...	82·4 ± 2·8	1·15 ± 0·05
Difference	3·7 ± 3·9	0·26 ± 0·09

(v) In Trinidad the *maxillary* regions of the Port of Spain children as a whole showed a slightly but insignificantly greater incidence and extent of gum disease than those of the non-cane rural children. Subjects from the rural cane districts, however, had significantly less disease than the children of the other two districts. In the *mandibular* regions the Port of Spain children had a significantly greater incidence and extent of gum disease and

calculus deposits than was evident in the Trinidad country children. There were significantly more gum lesions in children of the non-cane than of the cane areas, although for calculus the findings were reversed but the difference was not significant.

	Incidence (per cent)	Extent
Upper Jaw :		
Gum disease—		
Port of Spain	58·0 ± 1·5	0·78 ± 0·02
Non-cane (rural)	53·4 ± 1·9	0·77 ± 0·03
Cane (rural)	44·2 ± 2·1	0·61 ± 0·03
Differences—		
Port of Spain—non-cane	4·6 ± 2·4	0·01 ± 0·04
Port of Spain—cane	13·8 ± 2·6	0·17 ± 0·04
Non-cane—cane	9·2 ± 2·8	0·16 ± 0·05
Lower Jaw :		
Gum disease—		
Port of Spain	80·8 ± 1·2	1·40 ± 0·03
Non-cane (rural)	66·8 ± 1·8	1·07 ± 0·03
Cane (rural)	60·9 ± 2·0	0·94 ± 0·04
Differences—		
Port of Spain—non-cane	14·0 ± 2·1	0·33 ± 0·04
Port of Spain—cane	19·9 ± 2·3	0·46 ± 0·05
Non-cane—cane	5·9 ± 2·7	0·13 ± 0·05
Calculus—		
Port of Spain	74·3 ± 1·3	1·10 ± 0·03
Non-cane (rural)	63·7 ± 1·8	0·90 ± 0·03
Cane (rural)	68·8 ± 1·9	1·08 ± 0·04
Differences—		
Port of Spain—non-cane	10·6 ± 2·2	0·20 ± 0·04
Port of Spain—cane	5·5 ± 1·6	0·02 ± 0·05
Non-cane—cane	−5·1 ± 2·6	−0·18 ± 0·05

(vi) In British Guiana the *maxillary* regions of the children from the non-cane districts of West Berbice had significantly more frequent and more extensive gum lesions than those from the cane areas of Demerara. In the *lower* jaw there was no significant difference in incidence of gum lesions but their extent was significantly greater in the non-cane than in the cane districts. The incidence and extent of calculus deposits did not differ among the non-cane and cane groups of children.

	Incidence (per cent)	Extent
Upper Jaw :		
Gum disease—		
West Berbice	75·5 ± 2·8	1·33 ± 0·08
Cane areas	67·0 ± 2·5	1·02 ± 0·05
Difference	8·5 ± 3·8	0·31 ± 0·09
Lower Jaw :		
Gum disease—		
West Berbice	83·8 ± 2·4	1·64 ± 0·06
Cane areas	81·1 ± 2·1	1·37 ± 0·05
Difference	2·7 ± 3·2	0·27 ± 0·08
Calculus—		
West Berbice	81·0 ± 2·6	1·23 ± 0·05
Cane areas	84·2 ± 1·9	1·28 ± 0·04
Difference	−3·2 ± 3·1	−0·05 ± 0·07

(vii) Comparing the two colonies, the children in British Guiana had a significantly greater *maxillary* incidence and extent of gingival disease than those in Trinidad. In the *mandible* the extent and incidence of gum lesions and of calculus deposits of the children of British Guiana were also significantly greater than for the children of Trinidad.

	Incidence (per cent)	Extent
Upper Jaw :		
Gum disease—		
British Guiana	70·4 ± 1·9	1·14 ± 0·04
Trinidad	53·3 ± 1·0	0·74 ± 0·02
Difference	17·1 ± 2·1	0·40 ± 0·04
Lower Jaw :		
Gum disease—		
British Guiana	82·2 ± 1·6	1·48 ± 0·04
Trinidad	71·7 ± 0·9	1·19 ± 0·02
Difference	10·5 ± 1·8	0·29 ± 0·04
Calculus—		
British Guiana	83·0 ± 1·6	1·26 ± 0·03
Trinidad	69·8 ± 0·9	1·03 ± 0·02
Difference	13·2 ± 1·8	0·23 ± 0·04

(viii) Racial differences: In Trinidad the East Indian children had, for *upper and lower regions combined*, more gum disease than the Negro children ; the incidence was insignificantly larger and the extent was significantly different between the two races. In British Guiana the East Indian children had a significantly smaller incidence but a significantly larger extent of gum disease than the Negro children. The calculus deposits in the *lower jaw* were significantly greater both in incidence and in extent in the East Indian children than in the Negro children of Trinidad. In British Guiana the position was reversed and the Negro children had a significantly larger incidence and extent of calculus deposits than the East Indian children.

	Incidence (per cent)	Extent
Upper and Lower Jaws :		
Gum disease—		
Trinidad :		
East Indian	65·7 ± 0·9	1·00 ± 0·02
Negro	61·2 ± 1·1	0·92 ± 0·02
Difference	2·5 ± 1·4	0·08 ± 0·03
British Guiana :		
East Indian	73·2 ± 1·8	1·41 ± 0·05
Negro	79·6 ± 3·5	1·24 ± 0·05
Difference	−6·4 ± 2·5	0·17 ± 0·07
Lower Jaw :		
Calculus—		
Trinidad :		
East Indian	74·3 ± 1·3	1·19 ± 0·03
Negro	64·3 ± 1·4	0·85 ± 0·02
Difference	10·0 ± 1·9	0·34 ± 0·04
British Guiana :		
East Indian	79·4 ± 2·2	1·19 ± 0·05
Negro	86·7 ± 2·2	1·33 ± 0·05
Difference	−7·3 ± 3·1	−0·14 ± 0·07

(ix) Sex differences : In Trinidad the incidence and extent of gum lesions in *both jaws* together were significantly larger in boys than in girls. In British Guiana the position was reversed and the girls had a significantly greater incidence and extent of gum disease than the boys. *Mandibular* calculus deposits were slightly but not significantly more frequent among boys than among girls and the extent of the accretions was significantly larger in boys than in girls in both Trinidad and British Guiana.

	Incidence (per cent)	Extent
Upper and Lower Jaws :		
Gum disease—		
Trinidad :		
Males	64·3 ± 0·9	1·02 ± 0·02
Females	59·6 ± 1·2	0·87 ± 0·02
Difference	4·7 ± 1·5	0·15 ± 0·03
British Guiana :		
Males	74·4 ± 1·5	1·27 ± 0·04
Females	82·9 ± 2·3	1·49 ± 0·07
Difference	−8·5 ± 2·7	−0·22 ± 0·08
Lower Jaw :		
Calculus—		
Trinidad :		
Males	70·3 ± 1·2	1·08 ± 0·02
Females	69·0 ± 1·6	0·95 ± 0·03
Difference	1·3 ± 2·0	0·13 ± 0·04

Lower Jaw : Calculus—	*Incidence (per cent)*	*Extent*
British Guiana :		
Males	84·3 ± 1·7	1·32 ± 0·04
Females	79·0 ± 3·5	1·04 ± 0·06
Difference	5·3 ± 3·9	0·28 ± 0·07

(x) Allowing for the fact that the less susceptible distal aspects of the canine regions were charted in the West Indies but omitted in the Dundee (1944) survey, comparison of the two field studies indicates that gum disease in Trinidad was generally less frequent and extensive than in the poorer class Dundee schools ; the better class Dundee children showed gingival conditions similar to those in Port of Spain districts but were inferior to those in the non-cane and cane rural areas. On the other hand in British Guiana while the gum lesions were less frequent and extensive than in the poorer class Dundee schools, the mandibular calculus deposits were greater in the British Guiana children.

Association Between Gingival Lesions and Calculus Deposits (Mandibular Regions).—Salivary calculus is known to be a prominent ætiological factor in gingival disease of both animals and man and has received special attention in one of the writers' more recent experimental investigations of parodontal disease (King, 1945*a*, *b*, 1947*a*, *b*, *c*, 1949 ; King and Gimson, 1948–49 ; King and Glover, 1945). Table II suggests that the incidence and extent of anterior gum lesions observed in the West Indies children tended to parallel those of calculus deposits, but to test this apparent association a different dissection of the data is necessary. This may be made by considering each of the 2,996 mandibular regions examined in Trinidad and British Guiana in relation to the presence and extent of calculus on the adjacent teeth, the results of which can be summarised thus:

	Conditions of gum regions			
Calculus grade	*Per cent diseased*		*Av. disease fig.*	
0	27·7		0·34	
1	87·6	72·3	1·35	1·54
2	96·0		1·86	
3	100·0		2·34	

It is clear, then, that the presence of calculus was associated with increased incidence and extent of gum disease and that the heavier the calculus deposits the more frequently and more severely diseased were the related gingivæ.

The actual distribution was:

		Gingival disease grades				
		0	1	2	3	*Total*
Calculus deposit grades	0	597	173	55	1	826
	1	160	584	506	44	1,294
	2	28	173	362	132	695
	3	0	12	95	74	181
	Total	785	942	1,018	251	2,996

Grouping grades 2 and 3 together X^2 gave $P < \cdot 0000001$, indicating a high degree of association between the two conditions.

However, it will be noted that 27·7 per cent of gum regions were recorded as diseased in the apparent absence of calculus. It is probable that in a significant proportion of such regions calculus was present on the teeth in amounts too small to be detected by clinical means. One of the authors has ample evidence to indicate that in both human and animal subjects only histological examination of the tissues can decide this point, although capillary microscopy *in vivo* may provide strongly suggestive information (King, 1947*a*).

Incidence of Gingival Hæmorrhage (regions).—As indicated earlier, bleeding of the anterior gingivæ on heavy digital pressure was not a common feature in the West Indies children. The regional incidence of such hæmorrhage in both jaws was as follows :

Trinidad :		
Port of Spain (urban)	2·3 per cent	
Non-cane districts (rural)	3·8 „ „	
Cane districts (rural)	3·3 „ „	
British Guiana :		
Non-cane districts		
West Berbice	3·0 „ „	
Cane districts		
East Bank Demerara	6·9 „ „	6·0
East and West Coast Demerara ...	5·1 „ „	

There were no significant differences between the main or subsidiary Trinidad groups. In British Guiana, while the children of the non-cane districts were similar to those of the other Colony, the Demerara children (cane areas) showed a significantly higher regional incidence of bleeding. This was particularly marked in the case of the East Bank schools where the incidence reached 6·9 per cent, the comparable percentage for the Coastal Demerara children being 5·1. The increased frequency of gingival hæmorrhage may have been due in part to greater incidence and extent of calculus deposition but, as suggested in later paragraphs, other local or systemic agencies may be involved.

Mouth-breathing.—The incidence of mouth-breathing among the West Indies children was recorded as follows :

Trinidad :	
Port of Spain (urban)	21·5 per cent
Non-cane districts (rural)	17·5 „ „
Cane districts (rural)	22·0 „ „
British Guiana :	
Non-cane districts (rural)	10·0 „ „
Cane districts (rural)	15·0 „ „

Comparison of the extent of *regional gum disease* in the maxilla for children with normal and with mouth-breathing then gave the following results :

	Upper gum disease (regional)	
	Normal breathing	*Mouth-breathing*
Trinidad :		
Port of Spain	0·66	1·20
Non-cane (rural)	0·63	1·39
Cane (rural)	0·38	1·41
British Guiana :		
Non-cane (rural)	1·26	2·00
Cane (rural)	0·88	1·82
Total	0·68	1·38

From the above findings it would seem clear that the existence of mouth-breathing was accompanied by significantly increased susceptibility of the anterior maxillary gingivæ to disease. It is of interest that of the 96 children with mouth-breathing, 68 (70·8 per cent) had significantly enlarged tonsils at the time of examination and a further 7 (7·3 per cent) had had tonsillectomies ; the remaining 21 (21·9 per cent) showed no tonsillar abnormalities. Gross tonsillar sepsis was noted in 8 (8·3 per cent) of these children. The tonsils of children with normal breathing were not examined.

Gingival Texture and Colour in Relation to Disease.—All of the 2,055 healthy gum regions observed showed well-defined stippling ; of the 3,866 diseased gingivæ only 7·4 per cent were stippled and these were but slightly diseased.

Changes in gingival *colour* accompanying the supervention of disease were to some extent disguised in the West Indies children by their natural pigmentation, which gave to the gingivæ a characteristic blue-black appearance. It was noted that, following the beginning loss of gum stippling and during or just after the earlier stages of gingival hyperæmia and swelling, the gingivæ of the East Indian and Negro children began to lose their normal pigmentation and became typically reddened; this was true in the case of lesions associated with vitamin B_2 deficiencies as well as in those due to calculus and other local irritants. The findings may be summarised as follows :

Conditions of anterior gum regions of W. Indies children (all groups, both jaws)	*Total gum regions examined*	*Gum regions with lost pigment (per cent)*		
		None	*Some*	*Most*
Not diseased ...	2,055	68·8	24·8	6·4
Diseased	3,866	42·5	33·5	24·0

Thus, it is seen that 68·8 per cent of the healthy gingival regions retained at least a considerable proportion of their normal pigmentation as compared with only 42·5 per cent of those diseased. It should be stressed, however, that these observations were essentially clinical or *macroscopic*. Determination of their possible significance must await the results of histological studies on biopsy and experimental material now in progress, in which comparisons are being made with the gingival pigmentation characteristic of some dark-skinned animals.

Evidences of Vitamin B_2-complex deficiency.—For the clinical detection of vitamin B_2 deficiencies attention was confined to definite lesions of the lips and tongue according to the criteria adopted by Platt (1946). No indications of vitamin B_2 deficiency were encountered in any of the 406 Trinidad children. On the other hand, 20 of the 100 British Guiana children showed deficiency lesions of varying degree—5 in the West Berbice non-cane district ; 3 in the East Bank and 12 in the coastal Demerara cane districts.

It was then of interest to consider these findings in relation to parodontal conditions. First, the only cases of ulcerative gingivitis in the whole survey were seen in two East Bank Demerara children with red, denuded and fissured tongues and pronounced angular stomatitis. Secondly, as shown in Table III, the regional incidence of *mandibular* gingival hæmorrhage was markedly higher in the deficient British Guiana children (21·0 per cent) than in those with no evidence of deficiency (4·3 per cent) ; the maxillary gums showed little hæmorrhage in either group, but slightly more in the non-deficient children. Comparing the incidence and extent of mandibular gum disease and calculus deposition, the following results were obtained :

	Per cent	
	Incidence	*Extent*
No B_2-deficiency—gum disease	79·1	1·43
(80 children, 470 regions)—calculus ...	80·6	1·23
B_2-deficiency—gum disease	94·1	1·65
(20 children, 119 regions)—calculus ...	92·1	1·36

Thus the incidence of gum disease was significantly greater ($15·0 \pm 2·8$) in the deficient than in the non-deficient children but the extent of disease did not differ significantly ($0·22 \pm 0·13$). Calculus deposition followed a similar trend, the difference between the incidences being $11·5 \pm 3·0$ and between extents $0·13 \pm 0·12$.

(2) *Dental Caries and Hypoplasia in Children of* 12–14 *years*

Assessment of dental caries was made by examination of all types of permanent teeth. The incidence and extent of M-hypoplasia and their relationship to caries was based on conditions obtaining in the first permanent molars. When possible the findings in children of 12–14 years are compared with those of previous surveys in the Isle of Lewis, Outer Hebrides and London (King, 1940*a*).

Freedom from Caries (Mouths).—Table IV (p. 44) gives the proportion of children with no evidence of caries in any part of the denture. With the exception of one cane district (Williams Ville) and in contrast to previous experience elsewhere, the urban children in Trinidad showed significantly greater freedom from caries than the rural children of the same colony. The British Guiana children, all from rural districts, had an intermediate value between the urban and rural area of Trinidad. Little difference in the freedom from caries existed between the cane and non-cane rural areas of either colony or between the two races. A general comparison of the West Indies findings with the Isle of Lewis and London children of fairly similar age suggests that both in Trinidad and British Guiana children were more resistant to caries than the London and Lewis urban children but less so than the children in the rural area of Lewis.

Incidence and Extent of Caries (All Permanent Teeth)[1].—The percentage of carious teeth and the average caries figure for each area is shown in Table V and compared

[1]Including teeth known to have been extracted for caries.

TABLE III.—REGIONAL GINGIVAL HÆMORRHAGE IN BRITISH GUIANA CHILDREN WITH AND WITHOUT EVIDENCES OF VITAMIN B_2 COMPLEX DEFICIENCY

District	*Children with vitamin B_2 deficiency*				*Children with no vitamin B_2 deficiency*			
	Upper gum regions		*Lower gum regions*		*Upper gum regions*		*Lower gum regions*	
	Number examined	*No. with hæmorrhage (per cent)*	*Number examined*	*No. with hæmorrhage (per cent)*	*Number examined*	*No. with hæmorrhage (per cent)*	*Number examined*	*No. with hæmorrhage (per cent)*
West Berbice	30	Nil	30	16·7	199	1·0	204	3·4
East Bank, Demerara	18	Nil	18	11·1	156	5·8	155	8·4
East and West Coast, Demerara ...	71	Nil	71	25·4	97	Nil	111	Nil
Total	119	Nil	119	21·0	452	2·4	470	4·3

TABLE IV.—FREEDOM FROM DENTAL CARIES IN TRINIDAD AND BRITISH GUIANA NATIVE ELEMENTARY SCHOOL CHILDREN (1948, AGE 12–14 YEARS) COMPARED WITH THAT IN CHILDREN FROM THE ISLE OF LEWIS (1937) AND LONDON (1938, AGES 11–13 AND 13–15 YEARS)

District and race	*Total children examined*	*Caries-free children (per cent)*
A.—*Trinidad :*		
Port of Spain—Urban—		
Medium class—East Indian	40	20·0
Negro	25	20·0
Poorer class—East Indian	45	17·8
Negro	50	16·0
Orphanage—East Indian	4	—
Negro	22	18·2
Total	186	17·7
Non-cane Districts—Rural—		
Arima—East Indian	27	7·4
Negro	53	9·4
Cedros—East Indian	28	7·1
Negro	12	—
Total	120	7·5
Cane Districts—Rural—		
Couva, Caroni—East Indian	58	5·2
Negro	22	—
Williams Ville (Usine, St. Madeleine)—East Indian	20	55·0
Total	100	14·0
B.—*British Guiana :*		
Non-cane Districts—Rural—		
West Berbice—East Indian	20	20·0
Negro	20	10·0
Total	40	15·0
Cane Districts—Rural—		
East Bank, Demerara—East Indian	14	14·3
Negro	16	18·8
East and West Coast, Demerara—East Indian	15	6·7
Negro	15	6·7
Total	60	11·7
C.—*Isle of Lewis* (1937) :		
Rural—11–13 years	228	34·2
13–15 years	185	30·8
Urban—11–13 years	57	3·5
13–15 years	17	11·8
D.—*London* (1938) :		
South-east—11–13	82	Nil
13–15 years	58	3·4

TABLE V.—INCIDENCE AND EXTENT OF DENTAL CARIES IN *ALL FULLY-ERUPTED PERMANENT TEETH* OF TRINIDAD AND BRITISH GUIANA NATIVE ELEMENTARY SCHOOL CHILDREN (1948, AGE 12–14 YEARS) COMPARED WITH ISLE OF LEWIS AND LONDON (WHITE) CHILDREN (1937–38, AGES 11–13 AND 13–15 YEARS)

District, race and sex	*No. of teeth examined*	*Teeth carious (per cent)**	*Average caries figure*
A.—*Trinidad :*			
Port of Spain—urban—			
Medium class—East Indian—boys	552	21·9	0·39
girls	401	14·7	0·25
Negro—boys	689	17·3	0·33
Total	1,642	18·2	0·33
Poorer class—East Indian—boys	579	20·0	0·33
girls	436	17·9	0·29
Negro—boys	579	20·4	0·38
girls	679	17·8	0·33
Total	2,273	19·0	0·34

* In Table V all teeth extracted for caries were included, each of these being given the maximum caries figure of 3·0.

Orphanage—East Indian—boys	96	8·3	0·14
Negro—boys	467	14·3	0·27
Total	563	13·3	0·25
Non-cane Districts—Rural—			
Arima—East Indian—boys	368	28·8	0·57
girls	351	19·1	0·35
Negro—boys	553	29·3	0·49
girls	738	25·1	0·48
Total	2,010	25·9	0·48
Cedros—East Indian—boys	354	26·6	0·48
girls	287	27·2	0·45
Negro—boys	219	23·3	0·41
girls	109	7·3	0·10
Total	969	23·7	0·41
Cane Districts—Rural—			
Couva, Caroni—East Indian—boys	1,019	29·7	0·55
girls	540	23·3	0·41
Negro—boys	303	23·8	0·38
girls	305	26·9	0·49
Total	2,167	26·9	0·48
Williams Ville (Usine, St. Madeleine)—East Indian—boys	431	7·2	0·14
All districts, both races, both sexes	10,055	21·7	0·39
B.—*British Guiana :*			
Non-cane Districts—Rural—			
West Berbice—East Indian—boys	274	20·8	0·42
girls	267	9·4	0·18
Negro—boys	244	21·3	0·42
girls	277	23·1	0·45
Total	1,062	18·6	0·37
Cane Districts—Rural—			
East Bank, Demerara—East Indian—boys	371	21·6	0·41
Negro—boys	433	12·9	0·27
Total	804	16·9	0·33
East and West Coast, Demerara—East Indian—boys	400	18·8	0·37
Negro—boys	326	17·5	0·35
girls	73	32·9	0·67
Total	799	19·5	0·39
All districts, both races, both sexes	2,665	18·4	0·36
C.—*Isle of Lewis* (1937) :			
Rural—boys and girls—age 11–13 years	4,834	7·6	0·13
13–15 years	4,393	8·5	0·14
Urban—boys and girls—age 11–13 years	1,287	18·9	0·32
13–15 years	453	18·8	0·40
D.—*London S.E.* (1938)—*Urban :*			
Boys and girls—age 11–13 years	1,881	19·2	0·36
13–15 years	1,257	27·0	0·51

with the London and Lewis data. With a few exceptions the incidence of caries is fairly constant in the subdistricts. In Trinidad the children in the Port of Spain orphanage, the Negro girls in Cedros, and the East Indian boys in Williams Ville had substantially less caries than children in the remainder of the country. In British Guiana the East Indian girls of West Berbice had a caries value considerably below the average for the Colony.

The percentage of carious teeth and the average caries figure for children in the urban area of Trinidad was significantly smaller than in the rural districts. In the two rural areas only a small difference was found between the cane districts and the non-cane districts. The difference between the cane and the non-cane rural areas of British Guiana was also small.

Comparing the two colonies, the percentage of carious teeth was slightly but significantly larger in Trinidad, 21·7, than in British Guiana, 18·4. The average caries figure only differed by 0·03 between the two colonies.

The difference between the sexes was not consistent but, generally, the girls suffered less from caries than did

the boys. The outstanding large value for the girls of the West Coast, British Guiana was based on too few individuals to warrant any conclusions being drawn.

There was no racial difference in the incidence or extent of caries, the values found being :

	No. of teeth examined	*Percentage of carious teeth*	*Av. caries figure*
Trinidad :			
E. Indian ...	5,414	21·9	0·39
Negro... ...	4,641	21·2	0·39
British Guiana :			
E. Indian ...	1,312	18·1	0·38
Negro... ...	1,353	18·7	0·38

It is not possible to make a conclusive comparison of the West Indies data with the previous caries surveys in Britain owing to differences in age distribution. However, from Table V, it seems probable that the activity of the disease in both Trinidad and British Guiana was of a similar order to that in the urban district of the Isle of Lewis and in South-East London children. (King, 1940*a*). The rural children of the Isle of Lewis were considerably more resistant to caries than any of the other groups but it is of interest to note that the Lewis country children of 11–13 years and 13–15 years, had a closely similar incidence and extent of caries which was comparable to that found in the relatively small group of Trinidad children of the Williams Ville district.

Incidence and Extent of Caries in the 1st Permanent Molar Teeth.[1]—Since it is generally agreed that the first

[1] Including teeth known to have been extracted for caries.

TABLE VI.—INCIDENCE AND EXTENT OF CARIES IN *UPPER AND LOWER 1ST PERMANENT MOLARS* OF WEST INDIES CHILDREN (INCLUDING TEETH EXTRACTED FOR CARIES)

	Dental caries								
	Upper jaw			*Lower jaw*			*Both jaws*		
District and race	*Total teeth*	*Number carious (per cent)*	*Average caries figure*	*Total teeth*	*Number carious (per cent)*	*Average caries figure*	*Total teeth*	*Number carious (per cent)*	*Average caries figure*
A.—*Trinidad :*									
Port of Spain—Urban—									
Medium class—East Indian ...	80	30·0	0·55	80	60·0	1·31	160	45·0	0·93
Negro	50	50·0	0·96	50	54·0	1·42	100	52·0	1·19
Poorer class—East Indian ...	90	38·9	0·70	90	53·3	1·10	180	46·1	0·90
Negro	100	38·0	0·75	100	54·0	1·29	200	46·0	1·02
Orphanage—East Indian	8	25·0	0·50	8	37·5	0·63	16	31·3	0·56
Negro	44	36·4	0·64	44	47·7	1·11	88	42·0	0·88
Total	372	37·6	0·70	372	54·0	1·23	744	45·8	0·97
Non-cane Districts—Rural—									
Arima—East Indian	54	48·2	0·89	54	66·7	1·59	108	57·4	1·24
Negro	106	50·0	0·88	106	72·6	1·44	212	61·6	1·16
Cedros—East Indian	56	53·6	0·91	56	60·7	1·34	112	57·1	1·13
Negro	24	37·5	0·63	24	54·2	1·21	48	45·8	0·92
Total	240	49·2	0·86	240	66·7	1·47	480	57·9	1·17
Cane Districts—Rural—									
Couva, Caroni—East Indian ...	116	56·0	0·93	116	69·0	1·62	232	62·5	1·28
Negro	44	54·5	0·91	44	61·4	1·41	88	58·0	1·16
Williams Ville (Usine, St. Madeleine)—East Indian	40	10·0	0·18	40	15·0	0·43	80	12·5	0·30
Total	200	46·5	0·78	200	56·5	1·34	400	51·5	1·06
All districts and both races	812	43·2	0·77	812	58·4	1·33	1,624	50·8	1·05
B.—*British Guiana :*									
Non-cane Districts—Rural—									
West Berbice—East Indian ...	40	57·5	1·15	40	72·5	1·76	80	65·0	1·46
Negro	40	55·0	1·10	40	80·0	2·18	80	67·5	1·64
Total	80	56·3	1·13	80	76·3	1·94	160	66·3	1·58
Cane Districts—Rural—									
East Bank, Demerara—East Indian	28	64·3	1·18	28	71·4	1·82	56	67·9	1·50
Negro ...	32	43·8	0·78	32	62·5	1·60	64	53·1	1·19
East and West Coast, Demerara—									
East Indian	30	56·7	1·07	30	83·3	2·13	60	70·0	1·60
Negro	30	50·0	1·03	30	63·3	1·57	60	56·7	1·30
Total	120	53·3	1·01	120	70·0	1·78	240	61·7	1·39
All districts and both races	200	54·5	1·06	200	72·5	1·84	400	63·5	1·45

permanent molar teeth exhibit the greatest susceptibility to caries, the findings for these particular teeth are set out in Table VI. The values obtained for the upper and lower teeth are shown separately. In general there was a significantly greater incidence and extent of the disease in the mandibular teeth. For all districts combined the values were :

	Difference between the average of the upper and lower jaw	
	Percentage of carious teeth	*Average caries figure*
Trinidad	15·2 ± 2·2	0·56 ± 0·05
British Guiana	18·0 ± 4·7	0·78 ± 0·12

In Trinidad, the incidence and extent of caries was lowest in the urban district of Port of Spain and highest in the non-cane rural districts ; these were the only significant differences in the colony. In British Guiana, the incidence and extent of the disease in the cane and non-cane rural districts was very similar.

Comparing the two colonies, in British Guiana the children had a larger proportion of carious teeth than the children in Trinidad, the percentage difference was 11·3 ± 3·7 for the upper jaw and 14·1 ± 3·6 for the lower jaw. The extent of the disease was also significantly greater in British Guiana ; the difference between the average caries figures was 0·29 ± 0·08 for the upper jaw and 0·512 ± 0·10 for the lower jaw.

TABLE VII.—EXTENT OF M.-TYPE HYPOPLASIA IN 1ST PERMANENT MOLARS, EXCLUDING EXTRACTED TEETH (WEST INDIES CHILDREN)

District and race	*M-type hypoplasia*				
	Upper jaw		*Lower jaw*		*Both jaws*
	Total teeth tested	*Average figure*	*Total teeth tested*	*Average figure*	*Average figure*
A.—*Trinidad :*					
Port of Spain—Urban—					
Medium class—East Indian	77	1·50	64	1·61	1·54
Negro	45	1·69	30	1·20	1·49
Poorer class—East Indian	85	1·51	76	1·42	1·47
Negro	88	1·19	76	1·21	1·20
Orphanage—East Indian	8	2·00	8	2·38	2·19
Negro	39	2·05	35	2·09	2·07
Total	342	1·52	289	1·49	1·51
Non-cane Districts—Rural—					
Arima—East Indian	49	1·86	34	1·85	1·85
Negro	100	1·77	86	1·58	1·68
Cedros—East Indian	44	1·68	33	1·58	1·64
Negro	24	1·29	22	1·23	1·26
Total	217	1·72	175	1·59	1·66
Cane Districts—Rural—					
Couva, Caroni—East Indian	112	1·54	84	1·43	1·49
Negro	43	1·42	24	0·96	1·25
Williams Ville (Usine, St. Madeleine)—East Indian ...	39	1·00	35	0·83	0·92
Total	194	1·40	143	1·20	1·32
All Districts and both races	753	1·55	607	1·45	1·50
B.—*British Guiana :*					
Non-cane Districts—Rural—					
West Berbice—East Indian	36	1·64	31	1·68	1·66
Negro	30	1·83	23	1·83	1·83
Total	66	1·73	54	1·74	1·73
Cane Districts—Rural—					
East Bank, Demerara—East Indian	27	1·71	22	1·55	1·63
Negro	26	1·43	24	1·45	1·44
East and West Coast, Demerara—East Indian	28	1·39	21	1·43	1·41
Negro	22	1·50	16	1·44	1·48
Total	103	1·50	83	1·47	1·49
All Districts, and both races	169	1·59	137	1·58	1·58

The values for the two races, from Table VI data were :

	Upper jaw		*Lower jaw*	
Trinidad :	*Percentage of carious teeth*	*Average caries figure*	*Percentage of carious teeth*	*Average caries figure*
E. Indian	41·4	0·73	57·4	1·30
Negro ...	44·8	0·81	59·5	1·37
Difference	−3·4 ± 3·5	−0·08 ± 0·07	−2·1 ± 3·5	−0·07 ± 0·09
Brit. Guiana :				
E. Indian	59·2	1·13	75·5	1·87
Negro ...	50·0	0·98	69·6	1·81
Difference	9·2 ± 7·0	0·15 ± 0·15	5·9 ± 6·3	0·06 ± 0·18

The difference between the average values for the two races was insignificant for each jaw in each colony.

Surface Texture (M-hypoplasia) of 1st Permanent Molars (Excluding Extracted Teeth).—The extent of M-hypoplasia in the various survey groups is shown in Table VII. There was a considerable variation in the findings for the different groups and the average figure ranged from 0·83 to 2·38. The extent of hypoplasia was slightly greater in the upper jaw than in the lower jaw for the children of Trinidad although there were exceptions to this trend in some of the subgroups. Among the children of British Guiana there was no difference in the texture of the teeth of upper and lower jaw.

In Trinidad the average figure for hypoplasia was larger in the non-cane rural area than in either of the other areas and the lowest value was found in the cane rural district. In British Guiana the cane districts also had a lower average value than the non-cane rural districts. The difference between the mean values of the areas was :

Trinidad :	*Upper jaws*	*Lower jaws*	*Both jaws*
Non-cane rural area—			
Port of Spain ...	0·20 ± 0·07	0·10 ± 0·08	0·15 ± 0·05
Non-cane—cane rural area...	0·32 ± 0·08	0·39 ± 0·09	0·34 ± 0·06
Port of Spain — cane rural area	0·12 ± 0·06	0·29 ± 0·09	0·19 ± 0·05
British Guiana :			
Non-cane — cane districts	0·23 ± 0·10	0·27 ± 0·13	0·24 ± 0·08

With the exception of the difference between the non-cane rural and the Port of Spain districts for the lower jaw, all the differences are significant.

For the two colonies combined there was no racial difference in extent of hypoplasia, the differences being :

	Indian—Negro
Upper jaw	−0·028 ± 0·03
Lower jaws	0·046 ± 0·06
Both jaws	0·005 ± 0·05

Association between dental caries and M-hypoplasia in 1st permanent molar teeth (excluding extracted teeth).—A definite association between the structure of the teeth and the susceptibility to caries was shown. The distribution for all districts and both jaws in both colonies for the first permanent molars was :

Hyperplasia grades	*Caries grades* 0	1	2	3	*Total*
0	128	5	1	0	134
1	500	97	103	8	708
2	233	104	263	40	649
3	28	23	82	42	175
Total	889	229	449	99	1,666

The relationship between the structure of teeth and the incidence of caries is more marked in this survey than was found for the first permanent molars of the children in the Island of Lewis. A comparison with the results obtained from Lewis, King (1940*a* Table viii, p. 28) shows some interesting contrasts. 62 per cent of the first permanent molars of the Lewis children were free from caries while among the West Indies children the percentage was only 53. On the other hand the structure of the teeth of the West Indian children was better than that of the children of Lewis, 8 per cent of the former and 2 per cent of the latter were in hypoplasia grade 0. Almost twice as large a proportion was graded 0 or 1 for both hypoplasia and caries in the West Indian data as in the Lewis data, the percentages being 44 and 23 respectively. A comparison of the distributions of caries and hypoplasia for the two surveys is :

	Caries grade 0	1	2	3	*Total*
Trinidad and British Guiana ...	889	229	449	99	1,666
Island of Lewis	4,127	1,150	873	550	6,700
	Hypoplasia grade				
Trinidad and British Guiana ...	134	708	649	175	1,666
Island of Lewis	135	1,399	3,155	2,011	6,700

These distributions are significantly different, a $\times^2$ test giving $p < 0{\cdot}01$.

Comparison of Dental Caries and M-hypoplasia in 1st and 2nd Permanent Molars When Both These Teeth are Erupted.—The incidence of *caries* and the extent of the disease in these teeth was :

Trinidad :	*No. of teeth examined*	*Teeth carious (per cent)*	*Average caries figure*
1st molars	1,390	51·0	1·07
2nd molars	1,390	49·0	0·76
British Guiana :			
1st molars	323	64·1	1·50
2nd molars	323	41·8	0·66

The incidence of caries in the 1st and 2nd molars did not differ among the children of Trinidad but in British Guiana there was a significantly greater amount of caries in the 1st molars. The extent of the disease was greater in the 1st molars for both colonies, and this is, perhaps, to be expected when the length of time since calcification and eruption is taken into account. A feature of the distribution, however, was the relatively large proportion of carious 2nd molar teeth in the presence of caries-free 1st molars. Thus, in Trinidad there were 681 caries-free 1st molars in the presence of 224 carious 2nd molars : in British Guiana the figures were 116 caries-free 1st and 22 carious 2nd molars. It is true that 709 and 188 caries-free 2nd molars were present with 252 and 94 carious 1st molars in the respective colonies but this again might be expected in view of the longer period in which the 1st molars were exposed to caries-producing agencies in the mouth. An assumption that the chance of contracting caries in the 2nd molar was independent of that in the 1st was contradicted by the following distributions :

		Trinidad		*British Guiana*	
1st molar	*2nd molar*	*Observed*	*Calculated*	*Observed*	*Calculated*
Carious	Carious	457	347	113	87
Carious	Caries-free	252	362	94	120
Caries-free	Carious	224	334	22	49
Caries-free	Caries-free	457	347	94	67
		1,390	1,390	323	323

In each colony the observed number with caries in both the 1st and 2nd molars and the number with both molars caries-free was very much larger than would be expected if the occurrence of the disease in one tooth was independent of that in the other.

This peculiarity was not recognised until the survey was well under way but 144 of the second molars (both colonies) were eventually tested for *M-hypoplasia*. Their average index was found to be 2·06, a figure significantly higher than those observed for the 1st molars in the main Trinidad and British Guiana groups. The distribution of M-hypoplasia and caries for the 2nd molars is :

Hypoplasia	*Caries grades*				
grades	0	1	2	2	*Total*
0	8	0	0	0	8
1	16	5	2	0	23
2	23	22	19	1	65
3	4	13	28	3	48
Total	51	40	49	4	144

A comparison of M-hypoplasia grades for the 1st and 2nd molars is :

M-hypoplasia grades	*Percentage distribution of* 1,666 *1st molars*	144 *2nd molars*
0	8·0	5·6
1	42·6	16·0
2	39·0	45·1
3	10·5	33·3
Total	100·0	100·0

Dental Caries in Upper 1st and 2nd Permanent Upper Incisors.—Finally, the incidence and extent of caries in the upper incisor teeth was recorded (Table VIII), such teeth generally being the most susceptible of those in the anterior part of the denture and at the same time their labial surfaces being accessible to friction during the consumption, if any, of sugar cane. In Trinidad the incidence of caries differed significantly between the three areas, the lowest value was that found for the children of Port of Spain and the highest value occurred among

TABLE VIII.—INCIDENCE AND EXTENT OF CARIES IN *UPPER 1ST AND 2ND PERMANENT INCISORS* (WEST INDIES CHILDREN)

A.—*Trinidad :* *District and race*	*No. of teeth examined*	*Teeth carious (per cent)*	*Average caries figure*
Port of Spain—			
Medium class—East Indian	162	26·5	0·46
Negro	97	7·2	0·11
Poorer class—East Indian	180	24·4	0·34
Negro	196	11·7	0·18
Orphanage—East Indian	14	Nil	—
Negro	88	Nil	—
Total	737	15·9	0·25
Non-cane Districts—Rural—			
Arima—East Indian	106	36·8	0·68
Negro	212	26·0	0·44
Cedros—East Indian	111	35·1	0·62
Negro	48	10·4	0·19
Total	477	28·9	0·51
Cane Districts—Rural—			
Couva, Caroni—East Indian	231	47·6	0·85
Negro	87	29·9	0·30
Williams Ville (Usine, St. Madeleine)—East Indian	80	5·0	0·05
Total	398	35·2	0·57
All districts and both races	1,612	24·5	0·41
B.—*British Guiana :*			
Non-cane Districts—Rural—			
West Berbice—East Indian	80	13·8	0·20
Negro	80	22·5	0·38
Total	160	18·1	0·29
Cane Districts—Rural—			
East Bank, Demerara—East Indian	56	26·8	0·50
Negro	64	12·5	0·22
East and West Coast, Demerara—East Indian	60	5·0	0·08
Negro	58	19·0	0·38
Total	238	15·5	0·29
All districts and both races	398	16·6	0·29

the children in the cane rural district. In British Guiana the incidence of caries in the non-cane districts was insignificantly larger than in the cane districts. For all areas combined the incidence of caries was significantly greater in Trinidad than in British Guiana. The extent of the disease was less in the urban districts of Trinidad than in the rural districts. The average caries figure for Port of Spain was only half that of the rural areas. In both the colonies there was no difference in the extent of caries between the non-cane and cane districts. For all areas combined the average caries figure for Trinidad was significantly greater than that for British Guiana, the difference being $0{\cdot}12 \pm 0{\cdot}03$. For all areas and both colonies combined the East Indian children had a larger percentage of carious teeth than the Negro children, the difference $12{\cdot}0 \pm 1{\cdot}9$ being statistically significant. The average caries figure for the East Indian children was almost twice that of the Negro children, the difference being $0{\cdot}21 \pm 0{\cdot}03$.

(*To be continued*).

A METHOD OF CONSTRUCTING ACRYLIC OBTURATORS

By R. TAYLOR HEYLINGS, M.B., Ch.B., B.Ch.D.Leeds.

On consideration of the question of replacing tissue lost as a result of trauma, surgical or otherwise, in the region of the upper jaw, it was decided that an ideal prosthesis would be one which replaced as nearly as possible the form of the natural tissue lost.

Obviously to do this, where the whole or at least a large part of the maxilla on one side was missing, it would be necessary to make an obturator which would effectively seal off the oral cavity from the nasopharyngeal airway and the associated sinuses. It would also have to reproduce, as nearly as possible, the bony structure, i.e. approximate in form to the bony configuration of the maxilla, especially where the support of the facial tissues was concerned. It would also have to have thin walls and be hollow if possible.

Accepting the fact that the obturator would have to be removed periodically for cleansing by the patient himself, another desirable property was that the appliance should be easily inserted and removed by the patient, and yet at the same time, when in position, should fit accurately and have as little tendency as possible to move about during mastication and deglutition and, of course, during conversation.

Finally, incorporated in the obturator must be teeth which are æsthetically correct, as well as being functionally efficient.

Having decided what conditions the obturator should fulfil, it was determined to attempt to construct one as nearly ideal as possible, using acrylic resin and utilising springs where necessary. In discussing the method of construction of such an obturator the question will be considered from the following points of view :

(1) The method of taking impressions.
(2) The making of the working model.
(3) The construction of the base plate and taking the bite.
(4) The try-in stage of the obturator.
(5) The method of processing of the finished appliance and the fitting of the same.
(6) The follow-up.

Method of Taking Impressions

In the majority of cases of the more difficult obturators it is impossible to get a really satisfactory impression without constructing first some form of special tray, and indeed, even when the special tray has been used, before the obturator is finally passed as satisfactory it may be necessary to do what is the equivalent of a reline. As a general rule if the hole to be closed is only small and the flow of the impression material can be reasonably controlled a very good impression can often be taken using Zelex ; but, if the impression is of a much larger cavity, which is larger in diameter above the palate than is the hole at the level of the palate, although Zelex may with care give a good impression, a more satisfactory method is to use composition, as this is better controlled and there is less likelihood of difficulties being encountered. In the case of a large hole the following technique is adopted :

A piece of composition slightly larger than the cavity to be filled is introduced into the cavity and withdrawn before getting too hard. This prevents any overlap locking the material into the cavity. After withdrawal the composition, still soft, is reinserted and withdrawn several times, until finally when set the piece of composition can be inserted and withdrawn easily, but, nevertheless, when fully inserted, seals the opening into the oral cavity. The surplus of the composition which is still protruding into the mouth is then trimmed off flush with, or perhaps slightly overlapping, the natural palate.

Using a suitable tray, if necessary specially constructed, and having first lubricated the oral surface of the composition, a Zelex impression

is taken in the normal manner as for full upper impressions. This is removed, usually leaving the composition behind. The composition is withdrawn and seated in the Zelex impression.

Using sectional models it is now possible to construct a special tray which approximates very closely to the contour of what is left of the palate and the margin of the hole leading into the upper respiratory area. It can indeed reach up through this hole in such a manner that an impression of any tissue such as the cheek, or the floor of the orbit can be taken.

Using the special tray thus obtained, it was found that the best method of taking the final impression, is to cover the finished surface of the tray with a layer of impression paste. This paste adapts itself very easily to the tissues and yet is not too fluid ; and, moreover, additional layers of paste can be added if necessary. In taking this final impression it is important to concentrate particularly on the palatal surface and on the margin of the hole in the palate and the inner surface of the anterior, lateral and posterior walls of the cavity. It was found that as the mesial wall has later to be adapted to provide a clear airway there is no point in seeking to obtain an accurate impression much above the level of the palate mesially.

The Making of the Working Model

As the undercuts on the impression obtained as above may be very considerable, it is often necessary to construct the working model in two or more parts, and it is important that notches and wedges should be made on these to ensure that they are accurately located when put together.

The Construction of the Base Plate and the Taking of the Bite

As it may be necessary to alter the shape of the obturator considerably either to give more support to soft tissues where necessary, or to reduce its size where it is pressing unduly on some sensitive or sore tissues, it is first constructed in the form of a solid wax block. This fills the hole in the working model and is extended in such a way that the part of the palate which was missing is reconstituted as closely as possible. This is then placed in the patient's mouth and once again is adjusted until the normal anatomical configuration is simulated as closely as possible. At this stage careful carving can remove sufficient of the block to provide a clear nasal airway; the natural form of this (with the exception of the turbinates) being reproduced. This wax model is replaced in the working model and a base plate laid down as for a normal upper bite block. The wax part of the bite block is then added.

In taking the bite it is important that the obturator should be firmly seated in the cavity and at the same time the part of the bite block covering what is left of the natural palate should also be well home. Otherwise the procedure is the same as for normal full upper and lower dentures.

The Try-In Stage of the Obturator

It is often advantageous to construct the obturator and baseplate in acrylic resin before the try-in stage, as this allows a further opportunity of making adjustments. For instance, it is sometimes helpful at this stage to make absolutely certain that the seal at the posterior margin of the palatal surface is as near airtight and watertight as possible. To effect this it is often necessary to extend the denture backwards over the soft palate for a considerable distance. This is often possible in these cases as there is anæsthesia of the palate as a result of the previous surgical or other therapy. As the obturator is to be hollow, for the sake of lightness, it is necessary during its construction to make its walls sufficiently thick to allow of a certain amount of trimming, particularly so in any positions where this is likely to be necessary. To construct a hollow obturator satisfactorily it will be found best to make it in the form of a box open at one end and then later to construct a lid for this box in such a way that there is overlap all round the margins of the opening into the box. To get a good seal which will be watertight and airtight I think it is necessary that the join of the lid to the box should be accomplished by cutting a groove round the edge of the lid including the thickness of the lid and then, after packing this firmly with acrylic dough, reprocessing in the normal way.

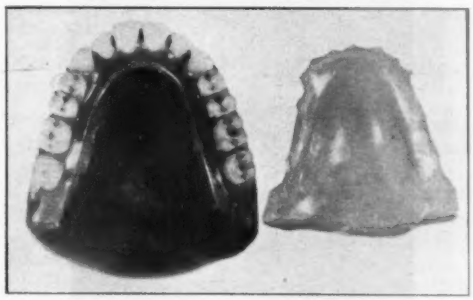

Fig. 1.—Obturator shown as a hollow box with the palate, which is to be the lid of the box, alongside.

If the overlapping part of the lid is sufficiently close fitting it will be found possible to pack the acrylic dough very firmly thus effecting the necessary condensation.

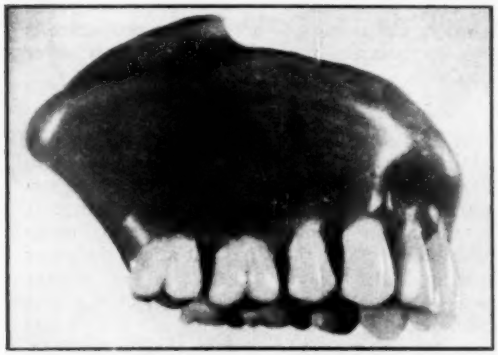

FIG. 2.—Lateral view of obturator in fig. 1.

At this juncture I would like to suggest that if the obturator contains any considerable thickness of acrylic it should be cured at a temperature of 100° F. for five hours, then at 180° F. for one hour, then at 212° F. for half an hour, thus avoiding porosity in the finished appliance. The teeth having been set up on this acrylic base plate the try-in can be carried out in the normal manner, but it is important to bear in mind at this stage that room must be left disto-buccally

FIG. 3.—Patient without obturator.

FIG. 4.—Patient wearing the obturator.

for the fitting of springs in cases where these would be necessary. In such cases it is often advisable to use special narrow posterior teeth so as to leave plenty of room for the tongue and at the same time make it possible to fit springs.

THE FITTING OF THE FINISHED APPLIANCE

During the processing of the finished appliance where it has been decided to use

FIG. 5.—Anterior view of the finished prosthesis for patient in figs. 3 and 4, showing the use of springs and high flanges to control them.

springs, it has been found best to make the flanges which control the springs as deep as possible as this prevents much irritation of the cheek later. A practical hint here is to cover the waxed-up flanges with artificial stone before investing the case as there is then less likelihood of crumbling during the pressing up and processing.

FIG. 6.—Posterior view of another finished case. The obturator here is hollow, and actually weighed less than an ounce.

When the appliance is being fitted it will be found necessary to adjust the length and strength of the springs to each individual case, and it is important that spot grinding of the occlusion should be most carefully carried out, so that excursions of the mandible during mastication do not tend to cause undue movement of the obturator.

FOLLOW-UP

After the case has been fitted, the patient should be told to report in a week's time or earlier if any discomfort is experienced. At this visit any alterations in the fitting of the appliance must be looked for and any necessary adjustments made, it being most essential, in view of the fact that most of these patients have previously been subjected to irradiation, that all the surfaces of the obturator which may move during mastication over the surface of the mucous membrane covering the edges of the cavity, or indeed any other part, should be made as smooth and as highly polished as possible.

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SHORT COMMUNICATION

RESORPTION OF ROOT OF MANDIBULAR MOLAR

BY FLYING OFFICER MAXWELL SAUNDERS, B.CH.D.LEEDS, R.A.F.

CORPORAL A first presented himself, on 29.6.50, with a chief complaint of pain in the left mandibular third molar area, following the extraction of the left mandibular third molar, three weeks previously. The patient reported that according to the dentist, this tooth was "lying horizontally," yet it is interesting to note that a radiograph was not taken prior to extraction.

Clinical examination showed nothing unusual in the appearance of the tooth socket, but the adjacent second molar exhibited considerable mobility.

Radiographic examination indicated that the posterior root of the second molar had undergone considerable resorption; so much so, as to be completely separated from the rest of the tooth.

The tooth was removed under local anæsthesia, but the posterior root was not attached to it. On examining the posterior socket, the coronal half was found to be filled with granulation tissue. The radicular half of the root was then easily removed with a root elevator.

It is believed that pressure atrophy from the "horizontally lying" third molar was the cause of this extensive resorption.

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CHAIRSIDE ASSISTANTS

THE unexpectedly heavy demands made upon the profession under the National Health Service and the consequential decline in the facilities available for the inspection and treatment of school children have led to renewed consideration of proposals for lightening the load to some extent by the use of ancillary or auxiliary workers. In all this, it is a little surprising that, although much has been said about the possibilities of easing the burden on members of the profession by delegating part of their work to other workers such as dental hygienists or dental nurses on the New Zealand pattern, little or no attention has been given to the prospect of improving and amplifying the help which can be given to practitioners by efficient chairside assistants. Although chairside assistants have been employed for something like seventy years, and it has for long been recognised that an efficient chairside assistant can save a dentist a great deal of time and unnecessary work, it is still true that too many members of the profession fail, for one reason or another, to make anything approaching to the maximum use of their services. There are still, for instance, many dentists who, for reasons of false economy, expect one girl to combine the duties of secretary and receptionist with those of chairside assistant, and who would be faintly surprised if they were told that such an arrangement was extravagantly wasteful of their own time. That full use is not made of the services of chairside assistants is, in part at any rate, as much the fault of dentists themselves as of the assistants.

Just as it takes two to tell the truth, one to speak and one to understand, so also two persons at least are needed to produce an efficient helper—one to teach and one to apprehend and practise. Most dentists will have a fairly clear idea of the kind of assistance they would like to receive, but only a minority of them can be expected to have an equally clear idea of how best to set about training young girls so that they may be able to afford them even that measure of assistance. Moreover, the pressure of work to which most dentists are now subjected creates a vicious circle—the very demands on the principal's time rendering it difficult for him to find time in which to train the chairside assistant who, when trained, could save him many hours in each week. It is true that there is a number of chairside assistants who have received a regular course of instruction and training and who are, in consequence, able to give the maximum amount of assistance to their principals with a minimum of adaptation to their individual requirements. The number of women who have received such a training is, however, very small in relation to the need for their services and the majority of dentists have no option but to undertake the training of their own assistants, or to employ those who have been trained in the surgeries of other members of the profession.

It is probable that a dentist who has a gift for teaching, and who is prepared to devote a reasonable amount of time to training his own chairside assistants, will be better served than one who relies on others, either an institution or a brother practitioner, to train his assistants for him. But whatever may be the respective merits or demerits of institutional and private training in normal times, under ideal conditions, it may safely be said that the present circumstances of general overstress have weighted the scales heavily in favour of the former. It will be remembered that both the Teviot Committee and the Committee of Enquiry into the Training, Wages, Conditions of Service and Title of Women Assisting Dentists in Public or Private Dental Service, reported in favour of the institution of regular courses of training for chairside assistants, to be followed by recognised examinations, the passing of which would entitle students to receive a certificate of proficiency. Something has already been done on those lines, but there is a need for a much wider extension of training facilities. It should be sufficiently obvious that a girl who has received a thorough systematic grounding in the essentials of the work in company with others will be much better equipped to build on her training and experience than will one who has been given nothing more than empirical training at the hands of the average individual practitioner, even though that training has been supplemented by the study of one or more of the manuals of instruction in the work of chair-

side assistants which have been published in recent years. There is also much to be said in favour of the training being carried out in, or in close connection with, a dental school, so that the trainees may have opportunities of obtaining wide experience of various methods of working. There would be a double advantage in such an arrangement. The trainee chairside assistants would be taught how to assist the operators and, at the same time, the senior dental students would learn how to make the most of their help, a process which could hardly fail to improve the performance of both as members of a future team.

This point needs to be stressed for, so far as can at present be foreseen, there is little likelihood of there being any appreciable decrease in the demands which will be made on the profession for many years to come. The development of such courses of training over a wide field, by providing members of the profession with competent, well-trained assistants, would eventually lead to a not inconsiderable increase in its overall efficiency, and as the Teviot Committee said, "An attractive field of employment would be open to an increasing number of young girls who would appreciate its importance in the health services of the community."

NOTES AND COMMENTS

New Year's Honours

THE congratulations of the profession will be extended to Mr. W. Kelsey Fry, Dean of the Faculty of Dental Surgery of the Royal College of Surgeons of England, on the Knighthood conferred upon him in the New Year's Honours. This recognition of the eminent service he rendered during the late war in connection with the dental side of the Emergency Hospital Service and the dental branch of the Royal Air Force and of the work he has done on the Board of the Faculty of Dental Surgery of the Royal College will be particularly welcomed by those who have been associated with him as colleagues or students during his long connection with Guy's. Congratulations will also be offered to Brigadier A. F. Hely, *C.B.E., D.S.O., T.D.*, who has been created *C.B.*, and to Surgeon Captain (D) F. R. P. Williams, R.N., and Colonel S. H. Woods, R.A.D.C., on their being created *C.B.E.* Other names in the Honours list of interest to the profession are Mr. A. E. Trueman, F.R.S., Chairman of the University Grants Committee (*K.B.E.*) and Dr. J. Boyd, Chief Medical Officer, Ministry of Health, and Local Government, Northern Ireland (*C.B.E.*).

Swedish Dental Association

To celebrate the 90th birthday of the Swedish Dental Association a special Festival Edition of its Journal[1] has been published. This consists of over one dozen original articles on different aspects of dental science and practice, each with an English summary and numerous illustrations. The subjects vary from the permeability of enamel to fractures of the jaws in children, from orthodontic diagnosis to amalgam condensers, and the whole forms an impressive production. It also reflects favourably on the research work, both clinical and laboratory, which is now being carried out in Sweden. The contributions come from the staffs of the Stockholm Dental School, the Eastman Institute, the Malmö Dental School, the Veterinary School, and from other institutes at Stockholm and Uppsala.

[1] Festskrift utgiven av Svenska Tandläkare-Sällskapet med anledning av dess 90-Årsdag. Pp. 216. Stockholm, 1950. A-B Fahlcrantz Boktryckeri.

Silver Jubilee of Basel Dental Institute

THE nature and importance of dental medicine is a fairly recent subject for discussion, particularly on the continent of Europe. The position which dentistry should take with regard to the other professions and arts has only been questioned during the last century and a half. Early in the nineteenth century one of the journals remarked that dentistry was growing into a profession; such questions never worried the older practitioners perhaps because like Miss Jenkyns they did not regard themselves as equals but "knew they were superior." The year 1949 was the twenty-fifth since the Dental Institute at Basel was incorporated in the University. As Basel is one of the older of the European academies, having been founded in 1460 and made famous under Erasmus, the acceptance of dentistry as one of the faculties was indeed a gesture. The dissertation given by Dr. med. Max Spreng, Director of the Dental Institute of the University, at the celebration of the silver jubilee of this foundation has now been published.[2] As was fitting he traced the evolution of dentistry from the Ebers papyrus, through the writings of Hippocrates, Pliny, Galen, the Arabians, Paré and John Hunter to more modern times. It would appear that the faculty of dental medicine was initiated, as a result of the work of William Hunter the internist, in 1910 on the relation between the diseases of the teeth and the health of the rest of the body. Meet praise is given in the dissertation to the surgeons Chapin

[2] Wesen und Bedentung der Zahnmedecine. By Professor Dr. med. Max Spreng, Basel, Verlag, Birkäuser. Pp. 36. Price 3 Swiss francs.

Harris and Horace Hayden who first established dental education on academic lines at Baltimore University in 1839. Dr. Spreng justified the inclusion of dental prosthetics in the purview of dental medicine, since medicine is a part of Natural Philosophy (as John Hunter believed) and all that it implies of mechanical, scientific and therapeutic treatment in which hand working plays a leading part. The great improvements made in oral surgery, necessitated by the treatment of the frightful facial injuries in the late wars, brought out the value of this hand working as a vital necessity. Nothing can stand alone whether it be a scientific department or an individual man. There must always be union, and interchange with other faculties. Isolation means stagnation, and a university which embraces all aspects of learning gives to its alumni opportunities unattainable otherwise. At the dinner held in connection with the celebration Professor med. S. Schonberg alluded to the other Swiss universities who had played an important part in the education of dental surgeons, some of whom had become teachers in Basel, this service of sending out teachers and practitioners to other parts could now, he said, be performed by Basel.

Viggo Andresen 1870–1950

A LONG life of eighty years during the major part of which a brain full of activity impels a vigorous physical frame must necessarily show tangible results in the various departments of a chosen walk of life. This is shown in the record of Viggo Andresen—a man keenly interested in his profession—investigating or testing each interest as it arose and finally concentrating on that fascinating part of it dealing with anomalies and their ætiology. He became interested in occlusion from a prosthetic point of view and from this through the years he developed his physiological technique for orthodontic cases. At the meeting of the European Orthodontological Society in 1924 at Amsterdam, fired by the researches of Bolk, he drew up a system for diagnosis dealing with Bolk's theory of the dentition of the future, that is non-inherited or terminal reduction of the first or last tooth of the dental series associated with progressive development of the brain. From that time Andresen's name has become almost a household word with dentists, and the Norwegian system of functional gnatho-orthopædics or individual biomechanical eugnathics and eugnatho-physiognomics has become increasingly popular. Born at Copenhagen, May 31, 1870, educated at the gymnasium at Mariboe, he left school at the age of 16 and entered the dental school of the University of Copenhagen, graduating from there in 1889. The degree of Med-dent was conferred upon him by the Medical Faculty Wurzburg in 1923. In 1927 he was appointed Professor of Gnatho-Orthopædics at the Dental College at Oslo. As a teacher he was responsible for many distinguished pupils, his genial nature and freshness of ideas making him popular as well as respected.

Fifty Years Ago

From the "Journal of the British Dental Association," January 15, 1901.

I will go a step further and suggest that dentists who hold any such appointments should meet together for the discussion of subjects of the nature I have described; this could be arranged during the Annual Meeting of the British Dental Association, and on similar lines to those adopted at the present time by dentists holding School appointments. I find there are about 229 members of our profession in London and the provinces who hold appointments in various medical institutions, and out of these there are 152 who are members of the British Dental Association, so that the subject is one which should interest a considerable section of our Association. The question to my mind is of much importance, and one in which a quickening influence is needed to bring about improvements which I feel sure would reflect credit on our profession and prove beneficial to our great charities.

This suggestion of a Hospitals Group comes from an address by Mr. A. A. Matthews to the Leeds and District Section.

LETTERS TO THE EDITOR

NEW ZEALAND REPORT

SIR,—In his comments on your Editorial of November 7, Mr. Cutler says "it would appear that the Report is largely favourable to the scheme."

The report is deliberately factual and is concerned only with this system of dental treatment *as it works in New Zealand.* In considering such a scheme one must bear in mind that a system which has gradually grown over 30 years and is accepted by the people of a sparsely populated country like New Zealand cannot necessarily be transplanted to a largely urbanised country like ours, and if introduction here were suggested the scheme could hardly be introduced and built up so gradually as in New Zealand during the past 30 years.

I must call attention to the "conclusion," paragraph 116. "Should His Majesty's Government decide to accept some like system of dental auxiliaries, we recognise that it would be a matter for those responsible to consider what modifications would be necessary to adapt that system to the existing pre-school and school dental services in this country, and in what directions these services would require to be modified; and it would also be important to secure the fullest co-operation with the dental profession as was, in fact, done in New Zealand," and the sub-paragraphs numbered (I) to (V).

These can certainly not be regarded as "favourable to the Scheme" if introduced into Britain.

There are so many differences in need and outlook between the two countries that only after the fullest consideration and with professional co-operation can such a scheme be contemplated here.

43a, *Calthorpe Road,* Yours faithfully,
Five Ways, Birmingham, 15. H. T. ROPER-HALL.

ABSORPTION OR RESORPTION

SIR,—Words are symbols which are used for the communication of ideas and the meaning communicated by a word is to a large extent determined by custom or usage. The true meaning of a word is not necessarily to be found by dissecting it in the way Mr. Ralph Cocker has dissected the word " resorb " (*Brit. dent. J.*, 1950, **89**, 281). Both " absorb " and " resorb " are used by reputable authorities to convey the idea of the removal of bone or tooth substance by the tissues. The two terms appear to be used to an equal extent at the present moment, with the use of " resorb " in the ascendant. For example, " resorb " is used in most American text-books by Stones and by Fish. Non-dental authorities who use " resorb " include C. R. de Beer and P. D. F. Murray.

Mr. Cocker will find his criticism of the word " resorb " answered in a paper by H. Becks and J. A. Marshall (" Resorption or Absorption," *J. Amer. dent. Ass.*, 1932, **19**, 1528) referred to by R. Kronfeld in his " Histopathology of the Teeth." Becks and Marshall take the view that " absorption " (L. ab, from; sorbere, to suck) means " the taking up by the tissues of fluids originating outside the body," while " resorption " (L. re, back; sorbere, to suck) means " the taking up or sucking back of products or tissues originating in the body."

*The London Hospital Dental School, London, E.*1. Yours faithfully, A. E. W. MILES.

SIR,—Referring to Dr. Cocker's remarks on the use of the terms " absorption " and " resorption," which appear in a letter in the *British Dental Journal*, December 19, 1950, the salts which take part in the building up of a deciduous tooth, as Dr. Cocker will agree, are derived, in the first instance, from food and drink. They are then sucked up or absorbed by the blood, where they are held in suspension or combination by proteins until required. Finally, they are deposited in a matrix or foundation, previously prepared for their reception, to carry out their part in completing the dentine, cementum, and, of course, the enamel.

The physiological disintegration of the cementum and dentine of the deciduous teeth by the action of osteoclasts frees these same salts, and they are returned to the blood and again absorbed by it for a second time. The process, therefore, involves :

(1) The destructive action of osteoclasts.
(2) The return of the salts to the blood stream (resorption).

" Resorption " may not be an ideal term to use for the process as a whole, but, in my opinion, it is more suitable in this connection than the term " absorption " which gives no indication that the blood has taken up the same salts on two separate occasions, a process, surely, of " resorption."

7, *Grosvenor Street, New Bond Street, W.*1. Yours faithfully, T. W. WIDDOWSON.

ACRYLIC RESINS IN CONSERVATIVE DENTISTRY

SIR,—Since the introduction of the self-polymerising resins by Schnebel of Germany numerous short cuts have been taken in the fitting of acrylic crowns. Mr. Lindo Levien's practical note, *British Dental Journal*, January 2, is an illustration of one of these techniques.

Acrylic resin is not adhesive and relies upon mechanical locks for its retention, and, even assuming the adequacy of fit of these crowns, acrylic monomer has a lethal effect on the dental pulp. Acrylic monomer is an organic solvent and in its pure state is quite capable of producing severe burns of the mucosa. Sections cut on experimental jacket crown preparations have shown that a superfine acrylic polymer and vacuum distilled monomer cement will cause extensive odontoblast destruction with subsequent œdema blister formation in the pulp. There is little round cell infiltration of the damaged area and total absence of any calcific repair by the pulp, the patients feel no pain in the early stages and a reticular atrophy of the connective tissue of the pulp ensues. Attempts to protect the pulp with acrylic chloroform varnish or local applications of thymol or phenol solutions have met with little success.

The acrylic jacket crown has a place in dentistry but it requires a meticulous technique to obtain good results, just as with the porcelain crown. Gold backings are generally advocated. The porcelain crown undoubtedly stands supreme as a permanent and proven restoration and it is the best the operator can offer his patient. However, the porcelain veneer crown has its disadvantages and the percentage of fractures and inaccuracies in colour is more than many enthusiasts will admit. It is clear that the answer to all these problems lies in the organic resin field which is still comparatively unexplored in dentistry.

The profession must face the fact that research into dental materials in this country is haphazard and frequently empirical. No commercial concern can afford to lay out the sum necessary fully to explore the potentialities of the resins in conservative dentistry. It is, therefore, necessary for the profession to instigate research on a major scale either with government or university help and for the various dental research centres to co-ordinate their efforts in conjunction with a team of organic chemists and the British Standards Institute.

Numerous letters have appeared in the *B.D.J.* expressing a desire for improved acrylics or similar materials and it has been left to the dental companies to fulfil these requirements. What research into the resin field is being done and are new materials under investigation ?

The production of a stable resin suitable for conservative dentistry is not an unsurmountable problem. The silicon resins alone offer a wide field for research. The silicons are heat stable organo-silicon-oxide polymers and their basic structure is similar to that found in vitreous silica and the mineral silicates.

It is impossible for the few dental research workers interested in materials to tackle these projects and as long as this type of research remains on the level it is today we shall continue to use materials that at their best leave much to be desired.

*Dental Department, Guy's Hospital, London Bridge, S.E.*1. Yours faithfully, JOHN W. MCLEAN.

POLYMERISATION OF ACRYLIC DENTURE BASE MATERIALS

SIR,—There is only one point of real importance raised in Mr. Tyldesley's and Professor Matthews' reply to my letter on this subject.

They offer to look for some other factor as a criterion of serviceability of denture base materials, if I " can find one single cogent reason why the tensile stress-strain relationships should not be used . . . under the conditions of service in which they are normally applied, i.e. in cases of static or dynamic stress systems *in which the fatigue factor is not involved* . . . " (The italics are mine.)

I confess that I cannot, and I wonder why I should be asked to do so. The whole point of my criticism is that a denture base material has to serve under conditions that are the very reverse of these, namely, conditions that are extremely likely to cause fatigue in any material subject to it.

If, then, Mr. Tyldesley and Professor Matthews agree that there is a possibility of fatigue fractures occurring in acrylic denture base materials, they must also agree that their investigation was incomplete and their conclusions premature.

University of Bristol Dental School,
Lower Maudlin Street,
Bristol, 1.

Yours faithfully,
A. O. CHICK.

INLAYS FOR DECIDUOUS TEETH

SIR,—Replies to articles in dental journals are usually made only by readers who disagree with the author. I am, however, in complete agreement with Mr. Hallett and would like to draw attention to his valuable contribution, *Brit. dent. J.*, October 17, 1950, p. 193, on the conservation of deciduous teeth. I should like to refer particularly to his suggestion—that the best restorative method of treating Class 2 cavities in the deciduous molars is to use inlays cast in hard gold, the next best, silver amalgam. I have reached the same conclusion. With a view to avoiding any possible unnecessary expense of costly inlays, and of finding out the cause of failures in filling Class 2 cavities with silver amalgam, I investigated the anatomical relation of the pulp cavity to the thickness of enamel-dentine in the deciduous molars. I made 1,000 measurements of 125 molars of children between the ages of 3 and 9 years old, and made mesio-distal sections. I found that the average thickness of enamel-dentine at the gingival step was 1·6 mm. Taking a number of other factors into consideration, such as caries, I came to the conclusion that it was not safe to count on a thickness of more than 1·4 mm. Amalgam inserted in cavities with such a narrow gingival step, when tested by the Brinell ball method, revealed such low values that its use in Class 2 cavities did not seem safe enough, and the only method which would be sufficiently reliable was to insert an inlay.

These measurements of the enamel-dentine thickness showed that only in 30 per cent of deciduous molars was there sufficient thickness to allow of the preparation of a cavity deep enough to insert a silver amalgam filling which would be strong enough to resist the masticating stress.

The problem now arises as to when the simpler method, the filling with silver amalgam, is applicable, and when the use of an inlay is the only method by which a Class 2 cavity can be filled successfully. A bite-wing film can assist in estimating the size of a pulp cavity. From experience I may say that, if I succeed in filling one Class 2 cavity in an individual, there is a good chance of being equally successful in the other molars. The thickness of enamel-dentine at the gingival margin provides a strict indication as to when an amalgam filling might be successful. In 70 per cent of Class 2 cavities in deciduous molars, however, there is really no choice and a cast inlay (any alloy of palladium will do) is the only method which can be expected to succeed.

28, *Deansgate,*
Manchester, 3.

Yours faithfully,
J. KURER.

DR. LINDSAY

SIR,—One might add a further quotation to Mr. Ballard's very charming appreciation of Dr. Lilian Lindsay.

This time from Steele who was talking of another very gracious lady : " To have loved her was a liberal education."

Borrowdale,
Sandal, Wakefield.

Yours faithfully,
B. R. TOWNEND.

Reviews and Abstracts

ROOT CANAL THERAPY. Third Edition. By Louis I. Grossman, D.D.S., Dr. med. dent., Assistant Professor of Oral Medicine, the Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania. London : Henry Kimpton. 1950. Pp. 368. Price 45s.

The latest edition of this book does not differ to any great extent from the second edition, with the exception that the chapter on antibiotics now contains the results of intensive research work over the last few years. It had been appreciated that no single antibiotic is capable of destroying the varied flora found in the canals of pulpless teeth. For an example, penicillin is inactivated by penicillinase, a ferment given off by a number of saprophytic bacteria, although it is highly effective against the gram-positive streptococci, which are the organisms found in the greatest numbers in pulpless teeth.

The author has found that polyantibiotic treatment of infected root canals with a suspension of penicillin, bacitracin, streptomycin and caprylate sodium has been " phenomenally effective," negative cultures being obtained usually after only one or two treatments. The technique of treatment is explained step by step, and radiographs taken before and after treatment testify to the success of this mode of approach to the problem of root canal therapy.

The fact that the antibiotics mentioned have such a marked destructive effect upon organisms found in the infected root canal, and that they do not injure the tissues of the host, points to their universal use in the near future, unless one single antibiotic is found which possesses all the features of this combination.

To the serious student of root canal therapy, Grossman's book is probably one of the most instructive and valuable that has been written on the subject. Since root canal therapy should rightly be included in everyday dental practice, it should hardly be termed a speciality,

but there would appear to be little doubt however that the average practising dentist has not the time or inclination to do justice to the ordinary root canal work with which he is confronted from day to day.

Grossman's book should be read by all who feel that a greater knowledge of this subject is required, and who feel that a serious attempt should be made to approach the subject in the correct way.

It is strange that in America it does not appear to be fully appreciated that all exposed pulps are infected, and that it is necessary to destroy these organisms situated in the pulp chamber, before root canal treatment is commenced.

However, the book is a serious attempt to describe the various modes of treatment of root canal work, and the author is to be congratulated on producing such a clear and concise work.

PRECIS D'ORTHODONTIE ET D'ORTHOPEDIE MAXILLO-FACIALE. By Dr. J. M. Chateau, Ancien Professeur à l'Ecole française de Stomatologie, and Dr. Michel Chateau, Ancien Interne des Hôpitaux de la Règion de Paris. Assistant du Service d'Orthodontie de l'Institut Eastman. Paris : Julien Prélat, 6 Rue de la Bûcherie. 1950. Pp. 304. Price 1,200 Fr.

This compendium on orthodontics by father and son is addressed to students and practitioners ; also to specialists, in order to present certain questions in a new light and to bring some problems to their notice.

It is pointed out in the foreword that orthodontics is the subject most likely to cause the student discouragement, and that it has been a disappointment to a great number of practitioners as a result of unexpected difficulties and numerous failures. This may well be when views are perhaps as numerous as practitioners, and reactions to treatment so much more complicated than had been supposed as to throw doubt on the very foundations of orthodontic practice.

There are few tooth movements that cannot be accomplished but the difficulty lies in deciding what treatment will benefit the patient permanently. Many practitioners feel the urge to learn this for themselves : that is as it should be, but at what a cost ! The remedy would seem to lie in a presentation of unsuccessful cases *ad nauseam* by all practitioners : Lindblom, talking of " bite rehabilitation," said he had learnt more from his failures than successes and so it is with orthodontics—the clinical test is the only one to prove the value of a treatment and it is, therefore, desirable that unsuccessful cases should be freely reported.

The object of the present volume is to teach diagnosis and the recognition of cases which can be treated simply and with good results, leaving certain difficult cases to the specialist. For this reason the authors omit many complex methods of diagnosis and treatment. Extraction is recognised as a necessity ; in the case of France, the authors mention 15 per cent of the cases treated (Tweed, of the U.S.A., says 40 per cent), but they hope that this will be reduced in the future ; they leave the impression that extraction is regarded as mutilation. Relapse of treated cases is stated to occur in 25 per cent to 75 per cent of cases : it may occur immediately at the end of treatment or 3 to 4 years later, or when the third molars erupt : sometimes it is total, but may be partial ; some relapses diminish after each new treatment.

This book has been written on the basis that the student and practitioner require a work which is brief, teaching essentially diagnosis and recognition of those errors which can be treated in a simple manner, leaving certain difficult cases to the specialist.

The volume ranges over the entire orthodontic field and no reader can fail to find interest in it. It contains a large amount of information in a concise form and will be of special interest to orthodontists who wish to obtain an insight into continental, and particularly French, orthodontics.

An Analysis of the Variations in Position of the Mental Foramen.—Most authorities state that the mental foramen is situated between the apices of the premolar teeth. According to Gray it is situated below the apex of the second premolar. One hundred adult mandibles were studied in order to determine the relationship of the mental foramen to the teeth and to the body of the mandible. In approximately 50 per cent of cases the foramen was situated at the apex of the second premolar, in 23 per cent between the apices of the premolars, in 24 per cent it was immediately posterior to the apex of the second molar teeth, while in approximately 4 per cent it was either at the apex of the first premolar or below the apices of the first molar. In almost all mandibles the foramina were symmetrically situated. The foramen was found to be approximately one-quarter of the distance from the symphysis to the posterior border of the ramus.—TEBO, H. G., and TELFORD I. R. (1950) *Anat. Rec.*, **107,** 61.

Congenital Malformations in the Teeth and Eyes in Mental Defectives.—319 mental defectives, mostly of probable genetic origin, were examined for dental defects. 89 of them were examined for ocular defects. A few dental anomalies, such as microdontia and absence of teeth, were found and there was a higher incidence of lesions of the enamel, described as enamel hypoplasia, than is found in the general population. Similarly there was a higher incidence of ocular defects, mostly of the lens, and there appeared to be an association between the dental and ocular defects. The association of enamel hypoplasia with ocular and mental defects of probable genetic origin is interpreted as suggesting that it also is of genetic origin (although the enamel lesions illustrated appear to be of the type usually ascribed to post-natal influences.—Editor).—SPITZER, R., and MANN, I. (1950) *J. ment. Sci.*, **96,** 681.

Front Surface Dental Mirror.—Modern dentistry requires the use of a mouth mirror having optical properties of the first order. The conventional dental mouth mirror does not meet these requirements, because its reflecting surface is at the second or back surface (in respect to the path of light), and is termed a second surface or back surface mirror. Rhodium first surface mirrors have been subjected to clinical tests which demonstrate that their durability is exceptionally high and that they have decided optical advantages over the type of mirror now in use. They give better definition of detail and will help to eliminate much eye strain and fatigue. NELSEN, R. J. (1950) *J. Amer. dent. Assn.*, **41,** 456.

The Biogenesis of the Successional Dentition.—The replacement of the deciduous incisors by the permanent ones inaugurates the successional dentition. Continuing the study of serial models of 60 children it appeared that expansion of the arches to accommodate the larger permanent incisors was brought about by lateral and frontal alveolar growth during the time of the eruption of these teeth. Where the increase in intercanine width was greater in the upper arch than in the lower or where the deciduous arches were initially spaced, good alignment of the permanent incisors resulted. Where the deciduous arches were unspaced, crowding of the permanent incisors frequently resulted in spite of a greater increase in intercanine width than occurred in those cases in comparison with the initially spaced ones. Occasionally during the interval between eruption of upper and lower groups of incisors secondary spacing of the deciduous upper incisors occurred following the eruption of the permanent lower incisors. The amount of forward extension of the arches was approximately the same whether they were previously spaced or unspaced but was 1·0 mm. greater in the upper than in the lower. This latter difference could not be accounted for by a greater difference in the thickness or labiolingual dimension of the crowns of the upper permanent incisors over that of the lower ones.—BAUME, L. J. (1950) *J. dent. Res.*, **29**, 338.

DENTAL NEWS

THE SCHOOL SERVICE

Nottinghamshire.—At a recent meeting of the Nottinghamshire Education Committee it was reported that during November 1,041 children received dental treatment under the School Service. Of this number 848 were children who sought treatment because of toothache or other urgent reason. These figures supply a striking commentary on the changes for the worse in the provision of treatment for children.

The committee accepted a recommendation of the Medical Services Sub-Committee that a scheme should be introduced as soon as possible whereby effective use, within prescribed limits, could be made of ancillary workers in the local education authority's dental service; and that the Association of Education Committees be requested to consider this matter with a view to representations being made to the Ministries concerned.

The committee also approved in principle the employment of two dental hygienists.

Moray and Nairn.—Only about 50 per cent of the children found on inspection to require dental treatment, and whose parents have been advised to obtain treatment for them under the National Health Service, have actually received treatment. Inspections in the schools are carried out by two retired dentists who do not themselves give any treatment.

DENTAL BOARD OF THE UNITED KINGDOM

Reports of Committees

AT the Session of the Dental Board held in November the following reports of committees were considered.

Dental Health Education Committee.—The committee recommended that with the exception of the film "Nature Shows the Way," the films produced by the Board for dental health education purposes before the war were out of date and fell so far short of modern standards of presentation and technical competence that they should no longer be circulated.

The committee had approved an approach being made to the Central Office of Information asking them to consider the production of a film on the building of good teeth and the prevention of dental caries, designed primarily for prospective parents, health visitors, nursery matrons, nursery nurses, etc.

They had also requested the Advisory Committee to continue their inquiries into the production of a film or films to replace those which were being withdrawn from circulation.

It was reported that material in course of production included a new poster, a leaflet on tooth cleaning and a booklet to replace "Hygiene of the Mouth and Teeth." It was estimated that the cost of those items, together with that of reprinting folders and booklets already published, and the possible production of a new booklet for mothers, would be £6,500.

Educational Grants Committee.—The committee reported that the Advisory Committee on Visual Education in Dentistry had accepted the Board's offer of a grant of £1,500 to enable them to obtain copies of a number of films which were considered of value for teaching purposes and which were not available for general distribution. The Advisory Committee had selected thirty-one films which were considered to be of "exceptional value for teaching purposes," and as soon as the necessary permission of the owners had been obtained, it was proposed to ask the Chairman and Treasurers to sanction the immediate copying of thirteen of these.

The committee recommended that from January 1, 1951, applicants for the hire of the Board's copies of the films "Silicate Cement," "Amalgam Failure caused by Moisture Contamination" and any other films subsequently acquired by the Board through the Advisory Committee on Visual Education in Dentistry or from any other source, should be charged for the hire of films at the following rates :

For a reel of			400	feet	in	length	or	less	10s.	post	free
"	"	"	800	"	"	"	"	"	20s.	"	"
"	"	"	1,600	"	"	"	"	"	40s.	"	"

The committee recommended that Professor F. C. Wilkinson and Mr. A. H. Condry be invited to serve on the Advisory Committee on Visual Education in Dentistry, and recorded their appreciation of the valuable advice given and progress already made by the Advisory Committee and of the very able assistance which has been rendered by Mr. Dyce and Mr. Deverell who had been unavoidably obliged to resign.

Education and Research Committee.—The committee recommended that Mr. E. B. Brain be offered a further grant of £100 towards the costs of research in which he is now engaged in the School of Dentistry of the University of Birmingham.

The committee reported that they had had under consideration the question of ensuring the continuance of the work of the Dental Postgraduate Bureau in the immediate future. The functions of the Bureau had proved of great value both at home and overseas and the committee accepted the view that its work should continue. The committee were of opinion that, if arrangements could be made by the Board for the financing of the Bureau during the next few years, transfer of this responsibility might in the interval pass to some other body.

It was, therefore, recommended that provision be made for expenditure on the Dental Postgraduate Bureau for a period of three years commencing January 1, 1951, at a rate not exceeding £1,500 a year.

Finance Committee.—The committee estimated that for the year 1950 the income of the Board would amount to £30,089 and their expenditure to £29,200, leaving a surplus of £889.

BRITISH DENTAL ASSOCIATION

Patron: H.M. THE KING

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JANUARY 1951

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Co-opted.—S. B. Newton.

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Chairman—Vacant

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North of Scotland.—H. M. Crombie, Professor A. D. Hitchin and R. Whyte.

West of Scotland.—T. B. Henderson, W. Ferguson Mackenzie and J. Thomson.

Co-opted.—J. Marshall Banks, D. Y. S. Buttars, J. F. Henderson, R. P. Neilson, J. Stewart, S. Still and R. H. White.

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Elected.—L. E. Balding, J. Marshall Banks, F. W. Cooke, R. Fairhurst, T. Hall Felton, R. Morgan, O. P. Roberts, A. Smith, C. W. Spendelow and G. H. Teall.

P.D.O. Group Representatives.—W. B. Grandison, D. E. Mason, J. F. Pilbeam and A. Gordon Taylor.

Hospital Group Representatives.—H. H. Boyle and J. A. Hudson.

B.M.A. General Medical Services Committee Representative.—Dr. F. Gray.

Scottish Committee—Health Acts Sub-Committee

Chairman—J. MARSHALL BANKS,

Members.—W. Blyth Clark, H. M. Crombie, T. B. Henderson, Professor A. D. Hitchin, M. N. Larkin, C. E. Luke, J. MacArthur, R. P. Neilson, A. B. Potts, J. Stewart and S. Still.

Remuneration Committee

Chairman—J. J. GILLARD BISHOP

MEMBERS :

Ex-officio.—The President, the President-Elect, the Chairman and Vice-Chairman of the Representative Board, the Chairman and Vice-Chairman of the Council and the Honorary Treasurer.

Elected.—J. J. Gillard Bishop, J. P. Cocker, A. S. Davies, H. Davis, T. H. Flitcroft, T. Hindle, J. Lauer, D. E. Mason, C. W. Spendelow, J. Thomson, J. H. Threlfall, W. J. Wild and E. E. Wookey.

P.D.O. Group Representatives.—R. P. Neilson, J. F. Pilbeam and A. Gordon Taylor.

Hospital Group Representatives.—H. R. Cullwick and G. Wynne Griffith.

Health Centres Committee

Chairman—E. HOUGHTON

MEMBERS :

Ex-officio.—The President, the President-Elect, the Chairman and Vice-Chairman of the Representative Board, the Chairman and Vice-Chairman of the Council and the Honorary Treasurer.

General Practitioners.—W. Stamford Brittan, M. Beverley Burton, F. E. Harrison and J. N. Peacock.

Hospital Dental Officer.—E. Houghton.

Consultant.—H. M. Crombie.

Public Dental Officers.—W. B. Grandison and A. Gordon Taylor.

Priority Classes Committee

Chairman—P. G. CAPON

MEMBERS :

Ex-officio.—The President, the President-Elect, the Chairman and Vice-Chairman of the Representative Board, the Chairman and Vice-Chairman of the Council and the Honorary Treasurer.

Elected.—P. G. Capon, S. H. Coplans, J. Fletcher, D. E. Mason, S. P. Meacock and A. E. Rowlett.

Reorganisation Committee

Chairman—J. W. GILBERT

MEMBERS :

Ex-officio.—The President, the President-Elect, the Chairman and Vice-Chairman of the Representative Board, the Chairman and Vice-Chairman of the Council and the Honorary Treasurer.

Elected.—C. V. Armitage, F. J. Ballard, W. Stamford Brittan, M. Beverley Burton, J. Chalmers, W. J. Coe, C. Cooke, L. R. Davey, J. W. Gilbert, R. Hunt, J. Emrys Jones, M. N. Larkin, A. C. Mack, A. B. Potts, S. S. Sanderson, A. F. Stammers, E. S. Tait, R. G. Torrens and J. L. Trainer.

Deputies.—R. G. Ash, R. H. Chapman, A. C. Davies, A. S. Davies, D. R. Gardner, J. W. Gregory, P. E. Grundy, F. E. Harrison, L. T. D. Heppell, R. J. Hooker, R. C. Hunter, N. D. Pailthorpe, S. G. Robinson, A. Smith, J. H. G. Gibson Smith and S. Still.

Ancillary Dental Workers Committee

Chairman—E. E. WOOKEY

MEMBERS :

Ex-officio.—The President, the President-Elect, the Chairman and Vice-Chairman of the Representative Board, the Chairman and Vice-Chairman of the Council and the Honorary Treasurer.

Elected.—P. G. Capon, R. C. Scott Dow, R. C. Hunter, G. H. Leatherman, D. E. Mason, W. A. Mellish, R. Morgan, B. R. Townend and E. E. Wookey.

Grant-in-Aid Committee

Chairman—D. MACGREGOR

MEMBERS :

Ex-officio.—The President, the President-Elect, the Chairman and Vice-Chairman of the Representative Board, the Chairman and Vice-Chairman of the Council and the Honorary Treasurer.

Elected.—L. J. Godden, J. Hegarty, C. N. Jeffries, D. MacGregor, R. G. Swiss and G. H. Teall.

Establishments Committee

Chairman—E. B. DOWSETT

MEMBERS :

Ex-officio.—The President, the President-Elect, the Chairman and Vice-Chairman of the Representative Board, the Chairman and Vice-Chairman of the Council and the Honorary Treasurer.

Elected.—T. H. Flitcroft, J. W. Gilbert, J. Lauer, T. Leaver and W. Peebles.

Hospitals Group

Group President—C. W. SPENDELOW
Group President-Elect—H. M. CROMBIE
Group Hon. Treasurer—T. HALL FELTON

Group Committee

Chairman—J. P. COCKER

Elected.—C. E. Chapman, H. M. Crombie, R. Fairhurst, T. Hall Felton, G. Wynne Griffith, J. A. Hudson, J. J. McGreal, W. Moss, E. J. Perks, R. S. Smith, F. P. Southam, I. S. Spain, C. W. Spendelow, W. R. Tattersall, R. Sutton Taylor, D. J. Wigginton and G. Miller Yardley.

Co-opted.—H. H. Boyle and A. Gordon Taylor.

Public Dental Officers' Group

Group President—J. D. SYKES
Group Hon. Treasurer—R. CHASE
Group Hon. Secretary—A. GORDON TAYLOR

Group Committee

Chairman—D. E. MASON

Elected.—E. Burn (Eastern Division), L. B. Corner (Northern Ireland Division), J. Fenton (N. Western Division), J. Fletcher (Representative Board), W. B. Grandison (Representative Board), R. T. Hale (Southern Division), H. D. Hall (Representative Board), J. F. Herbert (Wales with Monmouthshire Division), Miss M. I. Lamb (Northern Division), G. J. S. Littlefield (Midland Division), Miss M. N. Miller (Representative Board), Miss F. M. Paterson (Scottish Division), J. F. Pilbeam (Representative Board), J. W. Shaw (Yorkshire Division), J. F. S. Smyth (Western Division), K. C. B. Webster (London and Home Counties Division).

Observer from Council of the Dental Officers' Group of the Society of Medical Officers of Health.—J. V. Bingay.

Dental Whitley Council (Local Authorities)—Staff Side

Chairman—D. E. MASON

MEMBERS :

Public Dental Officers.—J. V. Bingay, S. K. Donaldson, J. Fletcher, D. E. Mason, R. P. Neilson, J. F. Pilbeam, J. F. A. Smyth and K. C. B. Webster.

General Practitioners.—J. J. Gillard Bishop and J. Thomson.

Hospitals Group.—J. H. Threlfall and A. Gordon Taylor.

Printed in England by Staples Printers Limited at their Great Titchfield Street, London, establishment.

In this estimate no account was taken of the considerable liability which was accruing in connection with the rehabilitation of the Board's premises but the committee proposed to appropriate from the unappropriated balance a sum of approximately £4,500 for this purpose.

The expenditure for the year included the following items: educational grants, £1,500; dental health education, £1,820; grants for research and postgraduate education, £1,700.

The committee had received the following requisitions for the year 1951:

Educational Grants Committee: £3,500 for grants in aid of teaching, including the production of films and filmstrips and of grants to students.

Dental Health Education Committee: £6,500 for dental health education.

Education and Research Committee: £3,300 for grants for research and for postgraduate dental education, including expenditure on the Dental Post-graduate Bureau.

It was estimated that the receipts of the Board for the year 1951 would amount to £30,300 and the general expenses to £22,739. There should therefore be a balance of £7,561 towards the special expenditure of £13,300 requisitioned by committees. If these were required in full, a deficit of £5,739 for the year 1951 would result. Certain items of expenditure included in the budget for 1951 were of a non-recurrent nature and the committee recommended that the deficit for 1951 should be met out of the unappropriated balance of the Board.

The reports and recommendations of the committees were adopted by the Board.

Discipline Cases

THE following discipline cases were considered:

Albany Ames of Northgate Street, Chester, was found to have been associated professionally with a denture repair shop, the Chester Dental Depot, 6, St. Werburgh Street, Chester, who advertised in the *Cheshire Observer*, and also of having accepted and treated a patient who, to his knowledge, had been referred to him by the repair shop. The Board postponed their findings on the facts until their Session in November 1951.

Robert Wright, 46 High Street, Hounslow, was charged with having wrongfully demanded a fee in respect of dentures he had undertaken to provide under the National Health Service Act but the Board found that the facts alleged had not been proved to their satisfaction.

Bernard Menton, L.D.S.I., 114, Richmond Road, London, S.W.15, was found to have submitted a claim on Form E.C.17 for fees for treatment for which he had already been paid by the patient as a private patient. The Board, however, postponed their findings on the facts as proved until November 1951.

Maurice W. Ellwood, L.D.S.Eng., of Edgware, was charged with having on three occasions between September 1949 and June 1950 been so far under the influence of nitrous oxide, self-administered, as to be incapable of attending with proper care and skill to patients who were waiting to receive treatment.

The Board found the facts proved but did not consider that they amounted to infamous or disgraceful conduct in a professional respect. The Chairman, however, warned Mr. Ellwood to abandon this discreditable habit which might lead him to commit acts disgraceful in a professional sense.

In the case of Charles D. Vickers (previously reported, *Brit. dent. J.*, Dec. 19, p. 285) the Board found that Mr. Vicker's name ought to be erased from the Register.

Alexander D. Reid, of 165, Crown Street, Aberdeen, was found guilty of having wrongfully demanded fees from two patients whom he had undertaken to treat under the National Health Service (Scotland) Act but the Board postponed their finding on the facts until November 1951.

Mr. William B. Walch, of Darlington, was summoned to answer three charges of having claimed fees under the National Health Service Act in respect of patients for whom he had not completed the treatment for which the fees were claimed. Two of the charges were dismissed as the original documents were not produced, and the Board decided that, as prejudice might have arisen in respect of those charges, it would not be proper for them to hear the third charge.

AMALGAMATED DENTAL COMPANY

THE Amalgamated Dental Company announces that Mr. E. Russell Polden has retired, owing to advancing years, from the chairmanship of the company. Mr. C. Clifford Reeves has been elected chairman and Mr. Aitken Watson deputy chairman.

The Schools

Royal Dental Hospital Annual Ball.—The Annual Ball of the Royal Dental Hospital of London (School of Dental Surgery) will be held at the Park Lane Hotel, London, on Wednesday, February 21, 1951. Reception 7.15 p.m. for 8.15 p.m. Dancing till 2 a.m.

Garage facilities will be available for cars. Tickets, price £1 11s. 6d. each, can be obtained from M. R. Luckham-Down, Hon. Sec. Entertainments, c/o The Royal Dental Hospital, 32, Leicester Square, London, W.C.2.

Examination Results

Queen's University, Belfast.—*Final L.D.S.*—A. Magee, H. M. H. Morrison, J. A. Rodgers, J. Saperia.

University of Durham.—*Final B.D.S.*—J. G. Elliott. *Final L.D.S.*—Miss E. Adair, L. H. Dreebin, J. O. Mantey, M. M. Rosenberg.

Royal College of Surgeons of Edinburgh.—*Fellowship in Dental Surgery.*—G. L. Fordyce, L.D.S.St.And., J. W. F. Taylor, B.D.S.Lpool.

Royal Faculty of Physicians and Surgeons of Glasgow.—*Higher Dental Diploma.*—D. W. Dick, L.D.S.Glasg. *Diploma in Dental Orthopædics*: H. A. Anderson, L.D.S.Glasg., J. Campbell, L.D.S.Glasg., G. B. Hopkin, H.D.D.Edin., L.D.S.Leeds.

The Services

Royal Navy—Promotions.—Surgeon Lieutenant-Commander (D) to Surgeon Commander (D): D. C. Howe, D. L. Goodridge.

Royal Army Dental Corps.—Colonel J. P. Duguid has been appointed Representative Colonel Commandant of the Royal Army Dental Corps for 1951.

Obituary

JOHN McBRIDE, L.D.S.Eng.

OLDER members of the Metropolitan Branch will learn with regret that their old friend John McBride passed away in Belfast on January 3, 1951. He qualified from Guy's Hospital Dental School in 1905 and joined the Association in 1911, soon identifying himself with the activities of the Metropolitan Branch and its Northern Section. He served on the Branch Council for many years while practising at 25, Duke's Avenue, N.10. In 1935 he sold his London practice and removed to his native country, Northern Ireland, where he practised at

1, Chlorine Gardens, Belfast, until his recent demise. It was not long before his new Branch made use of his mature experience and his services to the Northern Ireland Branch were rewarded in 1948 by his being elected its President.

McBride was a most hospitable person and some of his old Metropolitan friends will recollect with pleasure an evening spent at his home during the Annual Meeting in Belfast in July 1938 when he and his charming wife entertained them to dinner.

William Robert Davies, L.D.S.Eng., of Caernarvon, died on December 27, 1950. He had been school dentist in the Caernarvon district for thirty years. He qualified in 1915 and served in the Forces in the first world war. He joined the B.D.A. in 1918.

George William Field, L.D.S.I., of 3, Chesterfield Gardens, London, W.1, died on January 2, 1951, at the age of 79. He qualified in 1893 and afterwards took the D.M.D. of Harvard.

James Frederick Maguire, L.D.S.Eng., of Dublin Road, Belfast, died on January 1, 1951. He qualified from the Royal Dental Hospital in 1907. After holding appointments in the Leeds Dental School and at Winchester, he practised in Belfast where he ultimately joined his brother Mr. M. J. Maguire. He had been a member of the B.D.A. since 1913.

Thomas Frederick Sutcliffe, L.D.S.Edin., of South Shields, died suddenly on December 30, 1950, aged 65. He qualified in 1908 and joined the B.D.A. in 1929. Since 1927 he had been hon. dental surgeon to the Ingram Infirmary, South Shields—having succeeded his father who held the post for 34 years.

William Edward Hawley Swallow, L.D.S.Manch., who practised in Levenshulme, Manchester, died suddenly on December 27. He qualified in 1922 and joined the B.D.A. the following year.

The Charge for Announcements of Births, Marriages and Deaths is 2s. 6d. per Line. (Approximately 8 words.) Minimum 7s. 6d.

Birth

BLACKBURNE.—On December 21, 1950, at Pindar Oaks Nursing Home, Barnsley, to Edna, wife of Brian Blackburne, L.D.S.Leeds, St. Mary's Lodge, Barnsley, a son (a brother for Margaret).

Death

FIELD.—On January 2, 1951, at a London nursing home, George William Field, D.M.D., L.D.S.I., of 3, Chesterfield Gardens, Mayfair, in his 79th year, after a sudden illness, passed away peacefully.

Our Diary

Wednesday, January 17.

East of Scotland Branch.—7, Drumsheugh Gardens, Edinburgh, 7.30 p.m. Discussion: "The Future of the Dental Profession."

Hounslow and Twickenham Section.—Dinner Meeting, "Jolly Gardeners," Isleworth, 7 p.m. "Consultant Dental Practice in the Hospital Service," C. Spendelow.

Thursday, January 18.

Bournemouth and District Section.—Grand Hotel, Fir Vale Road, Bournemouth, 8 p.m., preceded by Informal Dinner, 6.30 for 7 p.m. "Dental Photography," J. M. Dyce.

Central Counties Branch.—Clinical Meeting, Medical Institute, Birmingham, 7 p.m.

Leeds and District Section.—Leeds School of Dentistry, 7.45 p.m. "An Impression Technique for Full Lower Dentures," Professor H. P. Fenn.

Friday and Saturday, January 19 and 20.

Representative Board.—13, Hill Street, Berkeley Square, London, W.1, 10 a.m.

Monday, January 22.

The Royal Society of Medicine—Section of Odontology.—1, Wimpole Street, London, W.1, 5.30 p.m. "The problem of the 'clicking-jaw'," V. E. Ireland.

Tuesday, January 23.

Preston, Leyland and Chorley Section.—Starkie House, Starkie Street, Preston, 7.30 p.m. "Oral Surgery in General Practice," J. S. Hilton Collinge.

Wednesday, January 24.

Reading and District Section.—10, Gun Street, Reading, 7.30 p.m. Film: "Pathological Conditions Found in the Mouth," A. Deverell.

Sheffield University Dental Students' Society.—Annual Dental Ball, The City Hall, Sheffield, 8 p.m.

Continental Dental Society.—Eastman Dental Hospital, Gray's Inn Road, London, W.C.1, 8 p.m. Films of Medical and Dental Interest.

Thursday, January 25.

Metropolitan Branch—Northern Section.—Britannia Hotel, Camden Town, London, N.W.1, 7.45 p.m., preceded by supper, 7 p.m. Discussion on Local Anæsthesia. Opener: A. V. Earle.

Friday, January 26.

South Wales and Monmouthshire Branch.—Mackworth Hotel, Swansea, 7.15 p.m. "The Workings of the Dental Estimates Board," T. Leaver.

Wednesday, January 31.

British Dental Association Photographic Society.—13, Hill Street, Berkeley Square, London, W.1, 7 p.m. Showing of members' cine films. All B.D.A. members welcome.

Guildford and District Section.—Cotteridge Hotel, Guildford Road, Woking, 8 p.m. Speaker: Seymour Collins, a London Magistrate.

Wessex Branch.—County Hotel, Salisbury, 8 p.m., preceded by Informal Dinner, 6.30 for 7 p.m. "The Psychological Factor," Dr. G. F. Andrews.

Thursday, February 1.

Bognor Regis, Chichester and District Section.—Dinner Meeting, Sefton Lodge Hotel, Bognor Regis. "Recent Advances in Orthodontic Diagnosis," J. H. Hovell.

The Birmingham Medical Institute—Section of Odontology.—154, Gt. Charles Street, Birmingham 3. "Thoracic Surgery in Relation to Dental Surgery," A. L. d'Abreu.

Saturday, February 3.

Public Dental Officers' Group—Scottish Division.—Midlothian County Rooms, George VI Bridge, Edinburgh, 2.30 p.m. Talk on "Hospital Dentistry." Speaker: Dr. Martin.

Monday, February 5.

Epsom, Sutton and District Section.—Tattenham Corner Hotel, Epsom Downs, 7 for 7.30 p.m. Address by Professor H. B. Fenn.

Metropolitan Branch—South Eastern Section.—War Memorial Hospital, Shooters Hill, London, S.E.18, 7.30 p.m., preceded by coffee, 7.15 p.m. "Metallurgy of Dental Amalgams," I. S. Cardell. "Current Affairs," L. J. Godden.

Tuesday, February 6.

Metropolitan Branch—Hampstead Sub-Section.—Board Room, Hampstead General Hospital, Haverstock Hill, N.W. 3, 8 p.m.

Sheffield and District Section.—Grand Hotel, Sheffield, 7.45 p.m. "Some Legal and Ethical Aspects of Dental Practice," Dr. A. R. French.

Wednesday, February 7.

Bromley and Beckenham Section.—Dinner Meeting, Eden Park Hotel, Eden Park, Beckenham, 7.15 p.m. "Casual Communications."

Metropolitan Branch—Finchley Sub-Section.—319, Ballards Lane, London, N.12. Sound Film in Colour from the Dental Board, 8 p.m.

Saturday, February 10.

Eastern Counties Branch.—13, Hill Street, Berkeley Square, London, W.1, 10.30 a.m. Business meeting; 11 a.m. Paper: "Photography in the Service of Dentistry," H. Mandiwall; 2.15 p.m.: "Current Dental Affairs," H. Parker Buchanan.

Monday, February 12.

The British Society of Periodontology.—The Dental Hospital of Manchester, Bridge Street, Manchester 15, 3.30 p.m. "Local Causes of Periodontal Disease," A. F. Stammers. Casual Communication, J. Harrington.

West Lancashire, West Cheshire and North Wales Branch.—Clifton Hotel, Blackpool, 7 p.m. "Dental Mishaps," J. W. Hallam.

Thursday, February 15.

Central Counties Branch.—Coventry and Warwickshire Hospital, Coventry, 3 p.m. "Modern Anæsthesia in Dentistry," Dr. H. Rex Marrett.

Leeds and District Section.—Leeds School of Dentistry, 7.45 p.m. "Diagnosis and Treatment of Straightforward Orthodontic Cases," K. E. Pringle.

Metropolitan Branch.—13, Hill Street, Berkeley Square, London, W.1., 7.30 p.m. "Caries Prevention and Oral Hygiene," G. J. Parfitt.

BRITISH DENTAL JOURNAL

Communications with regard to editorial business should be addressed to THE EDITOR, *BRITISH DENTAL JOURNAL*, 13, Hill Street, Berkeley Square, London, W.1. Telephone: Grosvenor 2761. Telegrams: "Bridention," Audley, London.

Original Articles and Letters submitted for publication are presumed to be offered to the *British Dental Journal* only unless the contrary is stated.

ADVERTISEMENTS should be addressed to the Advertisement Manager, 13, Hill Street, Berkeley Square, London, W.1. Telephone: Grosvenor 2761.

BRITISH DENTAL JOURNAL SUPPLEMENT

January 16, 1951

ASSOCIATION NOTICES

BRITISH DENTAL ASSOCIATION

13, Hill Street, Berkeley Square, London, W.1.
Telegrams: "Bridention," Audley, London.
Telephone Nos.: Grosvenor 1592, 1593.
Journal Office: **Grosvenor 2761.**

XI INTERNATIONAL DENTAL CONGRESS
GROsvenor 3020

Dentists' Provident Society and Dentists' Insurance Committee. Telephone No.: Grosvenor 1172.

DENTISTS' PROVIDENT SOCIETY AND DENTISTS' INSURANCE COMMITTEE

THE move of the D.P.S. and the D.I.C. from Headquarters to 20, Bruton Place, **has been unavoidably delayed for a few weeks.** Members are requested therefore to continue to address correspondence to 13, Hill Street, until further notice.

SUBSCRIPTIONS 1951

IT is regretted that as a result of some difficulties in printing and the delivery of equipment essential to the new mechanised system of accounting, there has been some unavoidable delay in connection with the Association subscriptions for 1951.

Members who have not yet received any application for their subscriptions will be doing so in the very near future. In the meantime they should take no action.

Those who have already received applications and sent their subscriptions are warned that there will be a short delay before either they receive a receipt or their cheques are passed through the bank for payment. Every effort is being made to keep this delay as short as possible.

Some members sent their subscription before receiving any application for payment. They will greatly help if they will return the application form noting on it that their subscription has already been paid.

In all cases the return of the application form is essential as it forms an integral part of the mechanised accounting system.

BENEVOLENT FUND

The Honorary Treasurer (Mr. E. B. Dowsett) gratefully acknowledges the receipt of the following:

Donations.

West of Scotland Branch, £34; Medical Sickness Annuity Life Assurance Society Ltd., £26 5s.; North of Scotland Branch (Collection at A.G.M.), £14 10s.; London Hospital Lodge, £10 10s.; Northern Counties Branch, £6 12s.; Glasgow Dental Hospital, £5 10s.; "Anonymous," £5 5s.; Miss M. M. Loretz, £5 5s.; Central Counties Branch, £2 5s.; W. Marston, F. J. Wiltshire, £2 2s.; Finchley Sub-Section, £1 9s. 6d.; G. P. Holden, S. B. Newton (Christmas Fund), Warrington Local Dental Committee, £1 1s.; "Stafford," 4s. 6d.

In Memoriam E. W. Lowe.

H. Middleburgh, £1 1s.

Waste Amalgam.

C. H. Cattley, J. L. Gottlieb, F. Hamilton-Payne, W. Harford, E. Line, A. H. McKenna, A. Miller, A. R. Moate, D. B. Moate, E. A. Moore, F. Redfern, West Lancs Branch.

By the latest sale of waste, a further sum of £35 18s. 4d. has been realised making a total of £3,361 0s. 1d. Will members who have any considerable quantity of waste amalgam kindly forward this to the Honorary Treasurer, 13, Hill Street, Berkeley Square, London, W.1, at their early convenience.

ANNUAL MEETING, 1951

THE Annual Meeting for 1951 will be held during the week commencing July 2 under the Presidency of Mr. E. B. Dowsett. The provisional programme is printed below.

The Headquarters Hotel will be the Cumberland Hotel, Marble Arch, London, W.1. The meetings will be held at the Horticultural Hall, Vincent Square, S.W.1, and further details will be published in the Journal as the arrangements are completed.

Accommodation

Hotel accommodation in London during the summer will be very difficult to obtain, and **members should delay no longer in making reservations.** Many hotels are already fully booked for the whole summer. Those who regularly stay at particular hotels or who have friends or relatives in London are recommended to approach them in the first instance.

Any member who finds it impossible to obtain any accommodation should write as soon as possible to the Chairman of the Accommodation Committee, Mr. Seymour Robinson, 14, Wimpole Street, London, W.1.

PROGRAMME

Monday, July 2, 1951.

Morning: Meeting of Council.
Afternoon: Meeting of Representative Board.
All day: Golf tournament at Moor Park Golf Club.
Evening: Branch Reception.

Tuesday, July 3.

Morning: Annual Business Meeting
Annual General Meeting.
Association Photograph.
Afternoon: Benevolent Fund General Meeting.
P.D.O. Group Meeting.
Hospital Group Meeting.

Wednesday, July 4.

Morning: Papers and Demonstrations.
Afternoon: Demonstrations.
Evening: Annual Dinner at Grosvenor House, Park Lane, W.1.

Thursday, July 5.

Morning: Papers and Demonstrations.
Afternoon: Demonstrations.
Evening: Reception.

Friday, July 6.

Motor Coach, etc., excursions.

In addition to the above, special programmes are being arranged for Ladies, P.D.O.s and others, of which details will be available at an early date.

FILMS AT THE ANNUAL MEETING

PART of the demonstration programme at the Annual Meeting in London will consist of the presentation of films of dental interest. Members who have films suitable for this occasion are asked to communicate with the Secretary of the Demonstrations Sub-Committee, R. D. Emslie, Dental Department, Guy's Hospital, S.E.1, within the next few weeks.

HOSPITALS GROUP ANNUAL MEETING

THE Annual Meeting of the Hospitals Group will be held at Association Headquarters, 13, Hill Street, London, W.1, on Saturday, February 17, 1951. Full details will be in the hands of all Group members in the very near future.

The programme of the meeting is given below, and in addition to the business meetings, it is proposed to hold an informal luncheon for Group members and friends.

All members of the Group are asked to reserve the date and to reply without delay to the questionnaire when it is received. The programme for the meeting is as follows:—

11.00 a.m. Annual Business Meeting.

Agenda

1. Minutes of the previous Annual Meeting.
2. Treasurer's Report.
3. Annual Report of Group Committee.
4. Reports of Divisions.
5. Election of office-bearers.
   President-Elect
   Vice-President
   Hon. Treasurer
   Two honorary auditors
6. Election of Group Committee.
7. Presidential addresses:—
   Valedictory:—Mr. C. W. Spendelow.
   Inaugural:—Mr. Hugh Crombie

12.30 p.m. Informal Luncheon.

2.30 p.m. Scientific Meeting:
" Some Cases of Clinical Interest "
Hugh Crombie, M.B., Ch.B.Aberdeen, L.D.S.Eng.

OFFICERS AND OEFICIALS

WITH this issue of the Journal every member will receive a " List of Officers and Officials " of the Association, which provides an interesting comment upon those who ask " What is the Association doing? "

Study of the list reveals that, in addition to the Representative Board, the Council and the Executive Committee there are now nine Standing Committees and nine special *ad hoc* Committees. There are also the two special groups — Public Dental Officers and Hospitals — and, of course, the Dental Whitley Council (Local Authorities).

Even so the list is not completely exhaustive. There are also various bodies, for example the National Joint Council for Dental Technicians, and various governmental committees upon which Association members are serving and a variety of organisations, outside the narrow limits of the dental profession, upon which the Association is represented.

Truly the members of the Association are well served by the devoted few who make such sacrifices in the interests of the profession.

Public Dental Officers' Group

The Annual General Meeting of the P.D.O. Group was held at the University Arms Hotel, Cambridge, on November 18, with the President, Mr. D. A. S. Martin, in the Chair.

The Chairman of the Committee, Mr. D. E. Mason, reported on the progress of the Whitley Council negotiations. The action of the committee and of the representatives on the Whitley Council were approved by the meeting.

Reports from the Divisions were read. These showed that there was general and lively activity in all parts of the country with the exception of the Southern Division where an effort was needed to stimulate greater interest.

The Treasurer, Mr. R. Chase, reported a very satisfactory state of the Group's finances and was congratulated.

The following Officers for the year were elected : *President-elect*, Mr. A. G. Taylor ; *Vice-Presidents*, Mr. D. A. S. Martin and Mr. W. B. Grandison ; *Honorary Treasurer*, Mr. R. Chase ; *Honorary Secretary*, Mr. A. G. Taylor ; *Assistant Hon. Secretary*, Mr. T. H. Liptrot.

Mr. Martin gave his Valedictory Address, then formally invested the new President, Mr. J. D. Sykes, with the insignia of office, amid acclamation. Mr. Sykes then gave his Presidential Address, his main theme being the role of the School Dental Service in the prevention of dental disease. The address was received with great applause.

Arrangements had been made by Mr. E. Burn for tours to be made round the Colleges and for a film show in the hotel. A beautiful sunny morning decided the majority of members and their wives to select the former course !

The Annual Dinner in the evening was a most happy and successful function at which members wished the new President a successful and momentous year of office.

P.D.O. Group Notes

THE long-awaited findings of the Medical Officers' Arbitration Court have at last been made public and were summarized in the last issue of the Journal. Comments in the editorials of medical periodicals have, on the whole, expressed satisfaction, although in one it was regretted that the scale for assistant medical officers was less than that paid to some dental officers. There is an unpleasant ring about that. Bearing in mind that assistant medical officers are only on the first rung of their ladder of promotion and that most dental officers have very little chance of any promotion at all, is it not reasonable that the dentists' scale should exceed that of the most junior medicals ? However, the most urgent problem confronting all who are concerned with the preservation of the school dental service is recruitment. It can be said with certainty that a scale of salaries related to that of assistant medical officers would have no beneficial effect whatsoever upon this vital matter, although it might relieve the financial distress of those who have remained loyal to the children. A refreshing touch of realism is being shown by the Swansea Council, who, in order to get school dentists, are recommending to the Minister of Education that they should be allowed to offer a salary of £1,500 per annum. It will be interesting to see what his ruling will be.

These are momentous days, and if those in whose hands the fate of the school dental service lies can keep in mind the inestimable value to the country, in both health and money, of maintaining the children's teeth in good order, then may be realism will overcome parsimony.

H. D. H.

Branches and Sections

East Lancashire and East Cheshire Branch.—The third meeting of the session was held at the Midland Hotel, Manchester, on Monday, December 4, 1950.

Sixty-eight members and three guests were present.

The President, Mr. C. Cooke, was in the Chair. Professor R. V. Bradlaw gave a talk on " The New Zealand Dental Nurses Scheme." The bare facts were unfolded to the members and questions were asked by Messrs. J. R. Shaw, T. Dykes, J. R. E. Mills, J. S. W. Lomax, S. S. Doran, J. Miller, E. H. Fenton, E. Houghton, F. Markes, J. R. Moody and A. O. Hewitt.

A vote of thanks to the speaker, proposed by Mr. S. S. Doran, was received with applause.

South Wales and Monmouthshire Branch.—A meeting of the Branch was held at the Royal Hotel, Cardiff, on December 12, 1950. The President, Mr. Jackson Partridge, was in the chair.

Mr. Flitcroft opened a discussion on the Association's policy to the formation of a General Dental Services Committee.

After a full discussion the following resolution was passed :

" That this meeting of the South Wales and Monmouthshire Branch of the British Dental Association is opposed to the formation of a General Dental Services Committee on the lines proposed by the joint Conference in June. It is of the opinion that some means should be provided within the British Dental Association for the expression of Local Dental Committee's views, and is prepared to support the formation of a committee of the Association, to include local dental committee representation, providing that British Dental Association representation on such a committee is in the majority, and providing also that the committee is a standing committee of the Branch Representative Board and is responsible to, and must report to the Board."

Correspondence

The New Zealand Report.—I was so amazed at the impressions Mr. Millican put forward on the New Zealand Report that I re-read it in order to ascertain how he reached his conclusions.

Nowhere could I find any indication that the scheme was to be extended to private practice and as the ratio of dentists to the population is very high (1 to 2,890) compared with the United Kingdom (1 to 4,400) there is no shortage of dentists attributable to the employment of dental nurses.

The fact that there is still a three months' wait for an appointment with a private practitioner is an indication of the success of the scheme in producing a dentally educated population.

I can find nothing to indicate that the syllabus for a dental degree can or should be curtailed. To quote Sir Thomas Hunter (the originator of the scheme) " Great emphasis has been placed on the fact that the school dental nurse is a dental auxiliary, her training is deliberately divorced from that of a dentist gained in an undergraduate dental school."

The last paragraph of Mr. Millican's letter is so early Victorian that it should hardly need answering.

Carried to its logical conclusion it would preclude women from hospital nursing and all the professions.

Actually the wastage of 10 per cent from all causes compares very favourably with normal wastage in other occupations—male or female.

Space prohibits further quotations from the report but little doubt is left that the dental nurses have the fullest support and approval of the New Zealand profession and public and the only criticism was that there were not sufficient nurses to deal with the volume of work.

One would have thought that Mr. Millican with his long and intimate experience of the School Dental Service would, at least, have welcomed the report as a basis of investigation.

As a private practitioner I am not nearly as worried as Mr. Millican seems to be at any encroachment on our professional privileges and I would welcome any service which would produce dentally educated adolescent patients. They very rarely come from our overworked and underpaid School Dental Services.—PHILIP JOHNSON, 51, *St. Giles Street, Norwich.*

Durham County Council.—In spite of making a number of enquiries I have been unable to find that the Association has been very active in the support of our colleagues threatened by the Durham County Council with an unacceptable condition of employment, namely the " closed shop."

It does not seem that the profession realises sufficiently the seriousness of the threat which may come from some official body in the changed circumstances following the introduction of the N.H. Service.

The great bulk of the profession is now employed to a greater or lesser extent by one or other official body, that is, it has exchanged many individual employers (the patients) for a few, very few, omnibus ministries or county councils. It is not unknown for such bodies to act in an oppressive manner, as is now being attempted by the Durham County Council.

When such oppression is attempted it is essential that the members of the profession concerned should resist to the point of dismissal. If it comes to dismissal, these members would of course be very inconvenienced and very much out of pocket.

The Association cannot do a great deal to reduce the inconvenience, but it could, and should, be ready and willing to shoulder the financial burden. If these few members are to fight a battle for the whole profession, the least that we can do is to see that they suffer as little as possible for their actions. The same applies to non-members of the Association, who should be equally helped.

I hope that some officer of our Association will reply to this letter to the effect that I am ill-informed and out of date, and that encouragement and the promise of financial and other aid has been made. In other words, that we have given these men the maximum support of which we are capable.

If no such reply can be made, then I think it is full time that the whole matter is brought under serious and urgent discussion, for while the prompt action of the B.M.A. will probably defeat the Durham County Council, perhaps the next time the B.D.A. will have to fight alone. When that time comes, and it surely will, let us have the fighting mechanism all ready to go into action ; and let us build up a reputation for so helping a member, or members, subject to threats that they can and will stand up to such threats without fear for the consequences. Only in this way will the profession manage to preserve even a little independence.—P. RAE SHEPHERD, 4, *Wimpole Street, London, W.*1.

Sound Dentitions—Filling Part 7.—Having suffered from the same inconveniences as Mr. Gibbings complains of when Dental Estimate Forms are returned for the completion of Part 7 in those cases where the patient has all teeth present and sound I am able to understand the point of view of the clerk who examines the Estimate and now realise that his attitude is not necessarily one of incredulity.

Note 2 on the reverse of the Dental Estimate Form sets out the Standard Symbols to be used in filling up Part 7 and I wonder if Mr. Gibbings places his little " dot " in all the 32 squares which denote the teeth. If not, there is no method by which the Dental Estimates Board can distinguish between the case of the patient whose teeth are all present and sound and the case in which the dental surgeon has forgotten to complete Part 7.

For my part I find the " dotting " of 32 squares a somewhat tedious pursuit and I usually write across Part 7 " All teeth present and sound " in cases where this is applicable.—PAUL C. J. CRISP, *Dunclutha, Nyewood Lane, Bognor Regis.*

Pay of Medical and Dental Officers.—In the *British Dental Journal* of December 19, 1950, I see under "Notes and Comments—Services Pay," a comment implying that medical officers are being favoured in their being paid 3s. a day more than dental officers of corresponding rank.

I believe it is urged that medical and dental officers be equally paid, but as a dental officer I cannot bring myself to agree. With every respect for the work of my profession I cannot agree that it should receive an equal remuneration to that of the medical profession in the service.

May I point out—only as a single example—that when there is flying on a R.A.F. station the medical officer is bound to be in attendance whether day or night. His post is one far more responsible than that of the dental officer.

Is there not a suggestion in it all that our professional pride has been pricked?—A. M. BLACK, *Lodge Flat, Findhorn, Nr. Torres, Morayshire.*

Chief Dental Officers.—I have read with interest the excellent Interim Report of the Priority Classes Committee contained in the *British Dental Journal* Supplement of December 19, 1950.

I should like to draw attention to the latter part of paragraph 5 (111) on page *72*.

In Scotland the position is rather different. I quote hereunder an extract from the Circular No. 83/1946 issued jointly by the Department of Health for Scotland, and the Scottish Education Department in July, 1946.

"The Chief Dental Officer should be responsible to the Chief Administrative School Medical Officer" (i.e. the M.O.H.) "for the organisation, development and technical efficiency of the dental service. Like the Chief Executive School Medical Officer, he could attend committee meetings so that his advice may be available at first hand on any point affecting the school dental service."—ROBERT P. NEILSON, 10, *Drumsheugh Gardens, Edinburgh*, 3.

CHANGES OF ADDRESS

Notices of Members' Changes of Address should be addressed to the general office of the Association, and not to the Editor or the Journal Office. To avoid errors, name and both addresses should be written in block letters.

(W.C. to M.) BERNSTEIN, M., from 9, Park Row, Bristol, to 52, Black Stock Road, Finsbury Park, London, W.4.
(Y.) CLAPPISON, J. T., from 7 to 14, Lansdown Road, Bridlington, Yorks.
(W.C.) DANDO, C. E., from 7, Westwell Street, Plymouth, to 74, St. Levan Road, Devonport, Plymouth.
(S.W. to S.C.) DAVIES, D. K. L., from Bryn-y-Wawr, Llandilo, to 99, Rectory Road, Beckenham, Kent.
(N.I. to M.) ECCLES, J. D., from 4, Finaghy Park Central, Belfast, to Dental Department, Westminster Hospital, St. John's Gardens, London, S.W.1.
(M. to S.C.) EDWARDS, J. A. (Miss), from King's College Hospital, Denmark Hill, London, S.E.5, to 112, High Street, Hythe, Kent.
(E.L. to —) EIREW, H. L. (Captain, R.A.D.C.), from 255, Wilmslow Road, Manchester, 14, to Det. 708, Army Dental Centre, Munster, B.A.O.R., 12.
(— to N.S.) GALLON, R. M., from P.O. Box 93, Causeway, Salisbury, S. Rhodesia, to 168, Albert Street, Dundee, Scotland.
(E.C. to —) HARRISON, C. W., from 14, High Street, Slough, Bucks, to c/o Mrs. MacFarlane, Welton, Graaf Avenue, Milnerton, Capetown, S.A.
(M.) HODGE, G. T., from 21, Thornwood Road, London, S.E.13, to 52, Croydon Road, London, S.E.20.
(E.C. to S.C.) HORSFIELD, T. C., from 1, Market Hill, Clare, Suffolk, to 4, Maltravers Drive, Littlehampton, Sussex.
(E.C.) JENKINS, C. M. M., from 6, Carlisle Avenue, St. Albans, to 33, Bridge Road, Welwyn Garden City, Herts.
(E.C.) KOPLOWICZ, L., from 27a, Newland, to 45, Gold Street, Northampton.
(M.) McCALLIN, S. Granger, from 44, Sloane Street, London, S.W.1, to 14, Wimpole Street, London, W.1.
(M.) MACDONALD, R. (Surgeon Lieutenant (D) R.N.), from H.M.S. *Euryalus*, to H.M.S. *Forth*, c/o G.P.O., London.
(W.S.) McKAY, J. K., from 551, Sauchiehall Street, to 9, Sandyford Place, Glasgow, C.3.
(W.C.) OLLIVER, L. E., from 23, The Esplanade, to 1, Custom House Hill, Fowey, Cornwall.
(W.C. to C.C.) PAMELY, G. D., from Vernon Cottage, Queen's Road, Bishopsworth, Bristol, to 11, Vine Street, Evesham, Worcs.
(M.) PRINGLE, K. E., from 12, Manchester Square, to 2, Harley Street, London, W.1.
(E.C.) STOKES, F. H., from 278, Whitchurch Lane, Canons Park, Edgware, to Mitylene, Uxbridge Road, Stanmore, Middx. (Correction of entry in last Supplement.)
(N.C. to E.C.) STOLARCZYK, H., from 21, Bishopton Lane, Stockton-on-Tees, to 27a, Newland, Northampton.
(S.C.) SUTTON, P. S., from 11, Chichester Terrace, Horsham, Sussex, to Kingsmead, De Tillens Lane, Limpsfield, Surrey.
(S.C.) THOMAS, H. L., from The Ramblers, Canterbury Road, Herne Bay, to New Lodge, Blue House Lane, Limpsfield, Surrey.
(E.C.) VALE, A. T., from 431, Pinner Road, Harrow, Middx., to 25, Richmansworth Road, Watford, Herts.

NEW MEMBERS

(E.C.) BENNETT, Phillip Offord, B.D.S.Lond., L.D.S.Eng., 82, Dorset Avenue, Romford, Essex.
(C.C.) BRYER, Lionel Walter, B.D.S.Witswatersrand, University College, Oxford.
(N.C.) DALE, Gerald Ian, L.D.S.Durh., 38, Beaconsfield Street, Blyth, Northumberland.
(W.S.) DAVIS, Kenneth Harold, L.D.S.Manc., 73, Nethercliffe Avenue, Netherlee, Glasgow, S.4.
(S.C.) FRASER, Robert Cecil, L.D.S.St.And., Fryern, Chaldon, Caterham, Surrey.
(W.L.) GREEN, Alan Gordon, L.D.S.Lpool, The Hollies, Roby Road, Huyton, Nr. Liverpool.
(W.C.) HOWELL, Leslie Benjamin, L.D.S.Brist., 3, King Square, Bridgwater, Somerset.
(E.C.) KING, Eric John Ferguson, L.D.S.Eng., 40, North Hill, Colchester, Essex.
(N.C.) McKAY, Harold Vernon, L.D.S.Glasg., Chester House, Haltwhistle, Northumberland.
(M.) MORGAN, Evan Dennis, L.D.S.Eng., 299, Brownhall Road, London, S.E.6.
(W.C.) MORGAN, Francis Edward, Dentists Act, Holly Lodge, Tiverton, Devon.
(N.S.) OLIVER, William Montgomerie, L.D.S.St.And., 127, Ferry Road, Dundee, Angus.
(W.C.) PENGELLY, John Patrick Blessley, L.D.S.Brist., 157, Wells Road, Bristol.
(S.C.) ROBERTS, Gerald Holgate, B.Ch.D.Leeds, Longreach, Courtlodge Road, Trottiscliffe, Near West Malling, Kent.
(E.C.) SCHOVE, Joyce Winifred (Miss), L.D.S.Lpool, 31, St. Giles Street, Norwich, Norfolk.
(E.C.) SMITH, Doris Edith (Miss) B.D.S.Lond., L.D.S.Eng., 34, Central Avenue, Hounslow, Middlesex.
(W.L.) SMITH, Ian Donald James, L.D.S.Edin., Thurnham House, Thurnham Street, Lancaster.
(E.C.) TERRY, Maurice Edmund, L.D.S.Birm., 91, High Street, Tring, Herts.
(W.L.) WARWICK, Rita Mary (Miss), B.D.S.Lpool, Seafield, Jubilee Road, Formby, Liverpool.
(N.C.) WEALTHALL, Maurice, L.D.S.Durh., 24, Earls Drive, Denton, Newcastle-on-Tyne, 5.
(E.C.) WILLIAMS, Kenneth Vaughan, B.D.S.Lond., L.D.S. Eng., 6, Claremont Gardens, Upminster, Essex.
(E.C.) WOODGER, Eric Ashdown, L.D.S.Eng., 9, Barnfield Avenue, Luton, Beds.

Readmissions.

(W.C.) MOGG, Ernest Willey, L.D.S.Brist., 57, Esplanade, Fowley, Cornwall.
(—) VICKERS, Anthony Rossington, L.D.S.Edin., Exporters House, Suleman Street, Dar-Es-Salaam, Tanganyika.

FORTHCOMING MEETINGS AT HEADQUARTERS

January	18	Council	10.00 a.m.
,,	19	Representative Board	10.00 a.m.
,,	20	Representative Board	10.00 a.m.
February	2	Reorganisation Committee	10.00 a.m.
,,	3	Reorganisation Committee	10.00 a.m.
,,	3	Remuneration Committee	10.30 a.m.
,,	5	Health Acts Committee	9.30 a.m.
,,	12	Priority Classes Committee	10.30 a.m.

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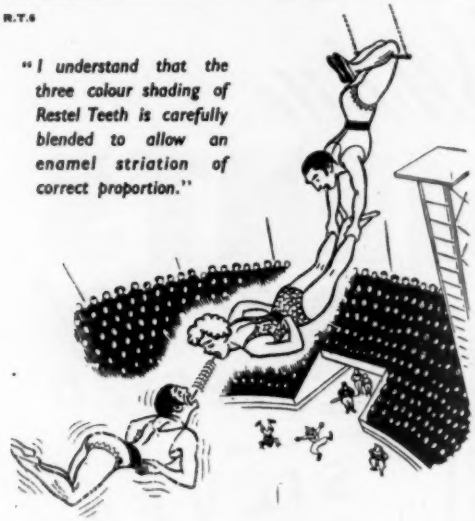

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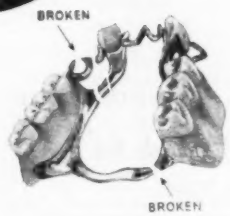

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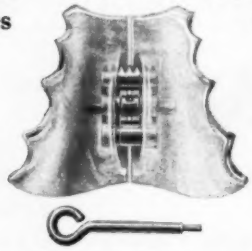

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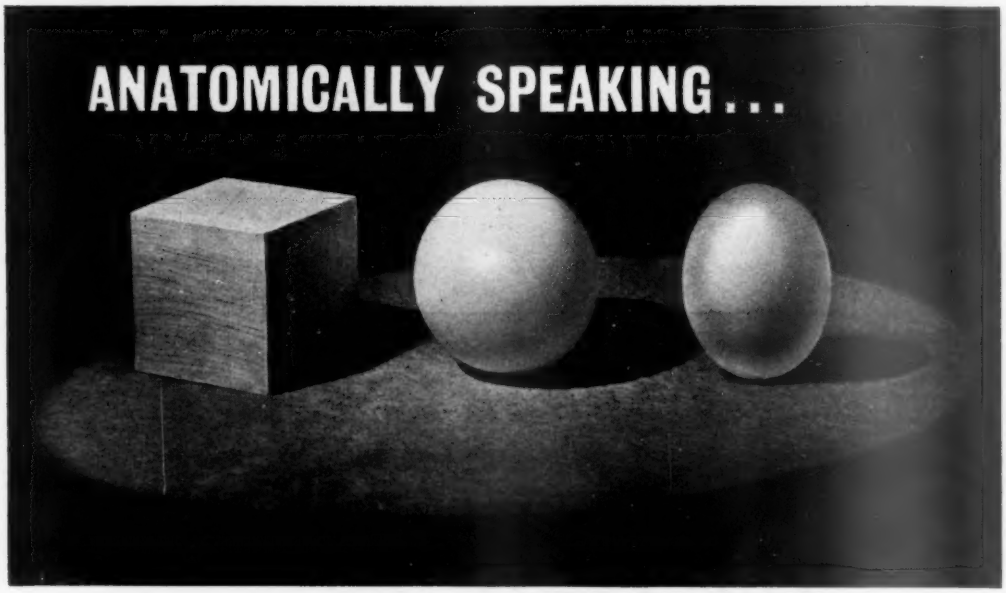

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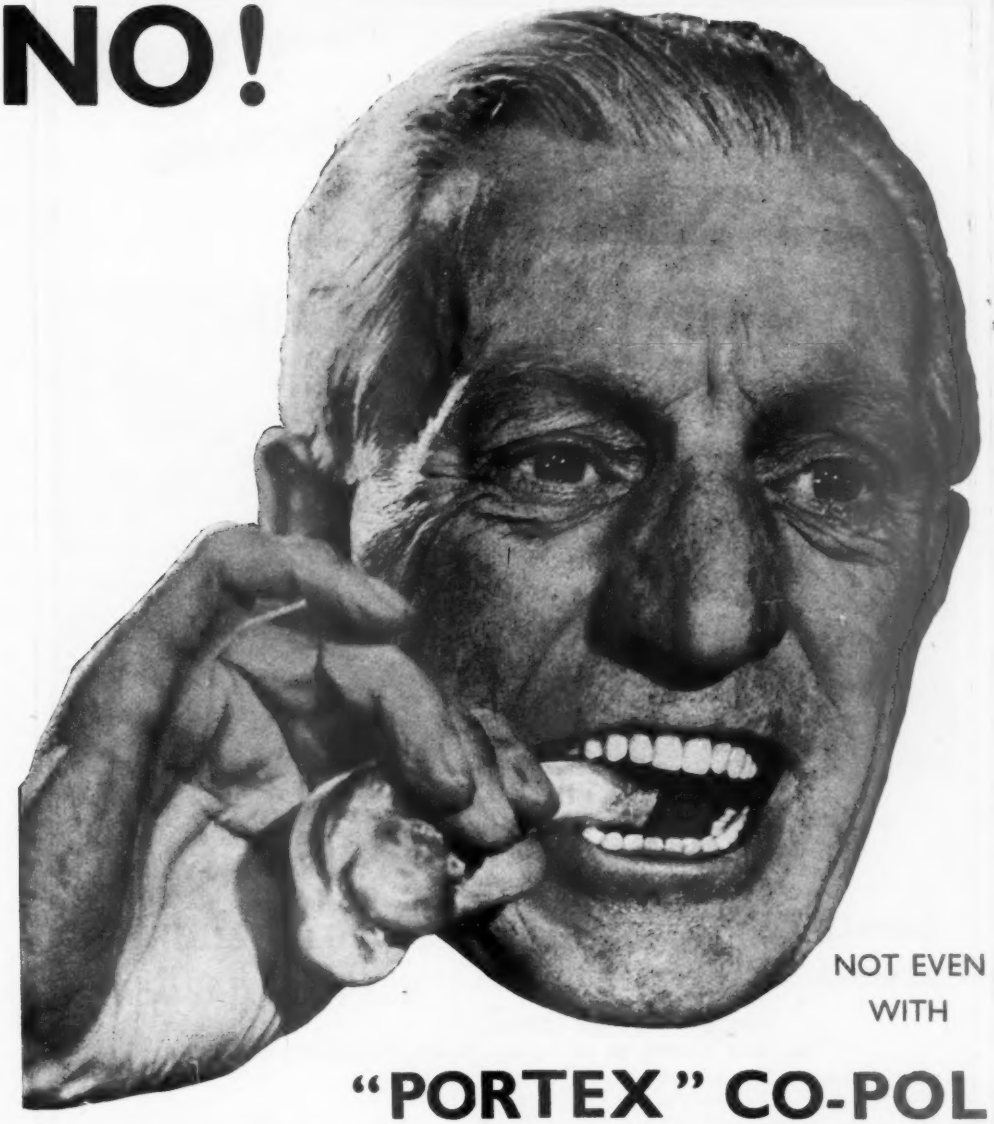

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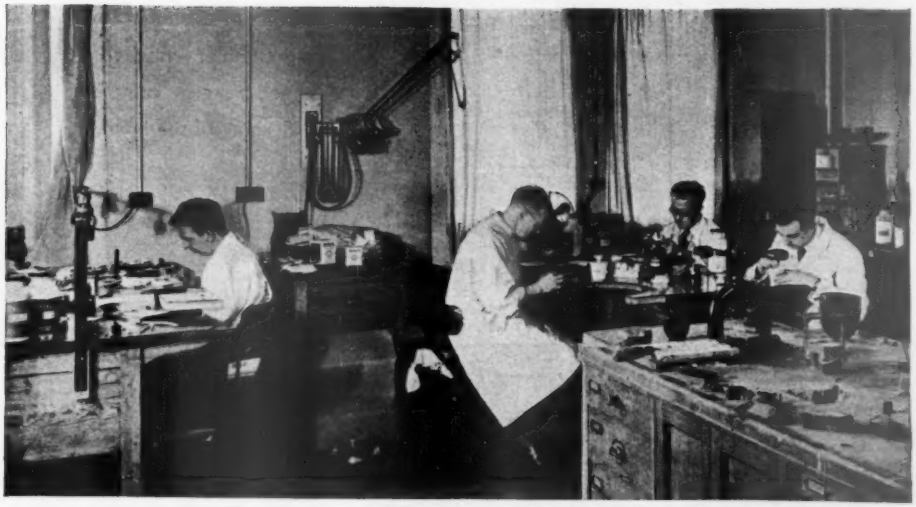

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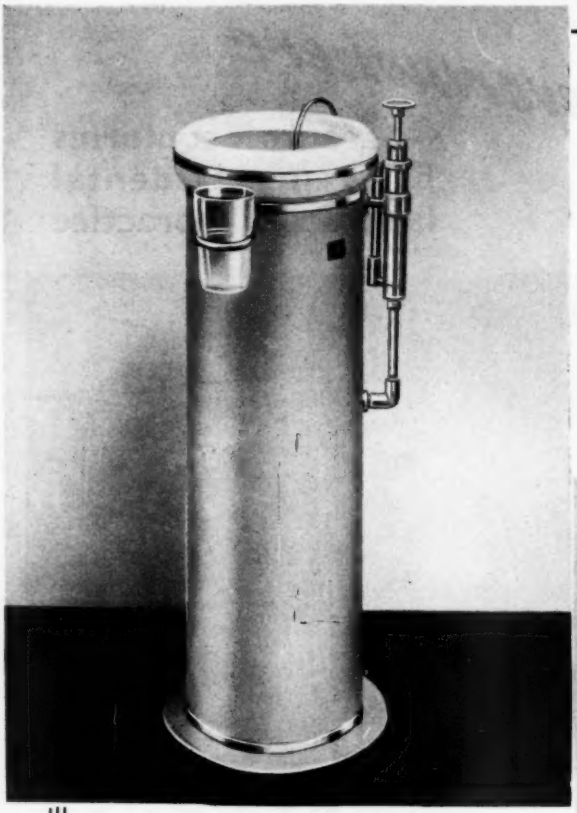

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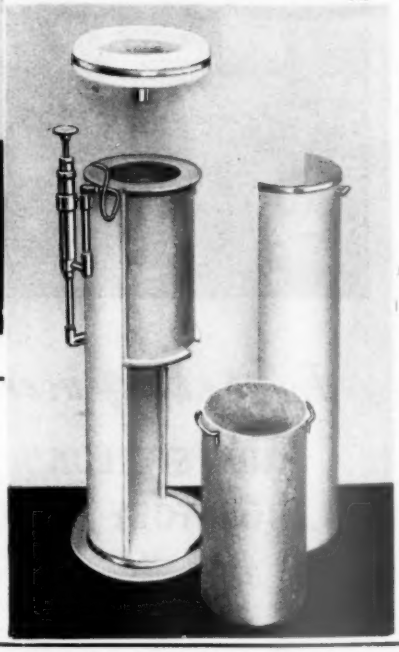

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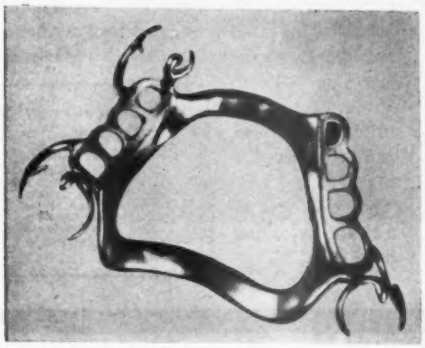

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